

Livestock & Dairy Journal
1914

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THE LIVE STOCK and DAIRY JOURNAL

FOR BREEDER, STOCKMAN, DAIRYMAN, POULTRYMAN and FARMER

THIRTEENTH YEAR

JANUARY, 1914



A PORTION OF THE BED OF SHASTA VALLEY, SISKIYOU COUNTY, CALIFORNIA, MOUNT SHASTA IN THE BACKGROUND. THE LANDS IN THIS VALLEY, COMPRISING SOME 100,000 IRRIGABLE ACRES, WILL BE THE NEXT LARGE ACREAGE IN THE STATE TO BE GIVEN OVER TO INTENSIVE ANIMAL HUSBANDRY

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The Live Stock and Dairy Journal

An Illustrated Monthly Publication for the Advancement of the Live Stock, Dairy and Poultry Industries of the Pacific Coast.

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Volume XIII. No. 1

UNIVERSITY OF CALIFORNIA AT THE PORTLAND SHOW.

In the report of the recent Pacific International Live Stock Show at Portland references have been made to the exhibits of the University of California in the various classes. It is of interest to note that the seventeen animals shown by the University won twenty-four awards—five championships, seven firsts, ten seconds and two thirds. The two thirds were in classes where the University also won first in one case and first and second in the other. Of the seventeen animals shown fifteen were bred at the State Farm and all the firsts and championships were won by them.

This showing has reflected more credit upon the State Farm than has any previous showing in strong competition, and is good evidence that the Farm stock is being developed well. From the standpoint of a farm animal breeding establishment the State Farm is only an infant yet, and if developments are as rapid there during the next five years as they have been during the past five, there will be no lack of ideal types to become fixed in the minds of the budding farmers attending the school.

CALIFORNIA LIVE STOCK BREEDERS' ASSOCIATION MEETING.

The annual meeting of California Live Stock Breeders' Association will be held at Palace Hotel, San Francisco, on Saturday, January 10th. While the entire program has not been announced at the time the Journal goes to press, it is said that an interesting session is being planned.

The annual dinner will be held as usual, following the business meeting.

THE SAME STORY.

Last month we commented upon the apparent scarcity of beef bulls, basing our comments upon information covering practically the whole country, and urged prospective buyers to secure their supply of bulls needed for the spring breeding season as early as possible, for the early heavy demand is to our mind a certain indication that there will be an acute shortage of breeding bulls when the late

buyers crowd the market. During the past month we have plenty of evidence to convince us that the shortage of bulls is even more marked than our first information led us to believe. One of the strongest evidences was the development at the recent International. During the big show fifty head of Herefords sold at auction at an average price of \$562 per head, forty-two head of Shorthorns sold at an average price of \$426 per head, and fifty-two head of Angus sold at an average price of \$275 per head. That is not all there is to the story, either. A large number of buyers were absolutely unable to secure the bulls they needed, and were willing to buy, for the very simple reason that they were not to be had. Prices have already stiffened up, although taking the Coast territory here as an example, the prices on registered beef bulls have been really too low. Basing a comparison on the actual price of beef, in 1906 when beef was worth around 6 cents dressed, breeding bulls were sold at from \$150 to \$175. Today when beef on the hoof sells for 6½ to 7 cents a grower now and then balks on paying \$175 to \$200 for the same class of bulls. If the scarcity of beef cattle is responsible for the higher prices of beef, the growers who have stayed in the business and are getting the benefits of the increased prices must reasonably expect a corresponding shortage in breeding bulls and a consequent increase in prices. The whole situation seems to be that there are a limited number of good breeding bulls to be had at the present time, that these are going to be entirely absorbed by the wise buyer who buys early, and the buyer who waits until the breeding season is upon him will face either very high prices with few good bulls to be had, or be forced to the very unsatisfactory expedient of using scrub bulls. No one will question that the bull is at least half the herd, and trying to make a \$100 bull balance up a \$2000 bunch of cows is a problem in mathematics beyond us.

A BIG IDEA WHICH WILL GROW

The plan advocated by R. G. Marshall, Chief Geographer of the United States Geological Survey, for the conservation of waters and system of irrigation for interior California, is rather a large idea to grasp, but after the first shock occasioned by the amount of money involved, it looks like an idea which merits great consideration. Mr. Marshall's plan includes practically the entire interior valley of California extending from Red Bluff at the north to Bakersfield at the south. It contemplates dams for the impounding of the flood waters of the spring, and canals for the distribution of these waters through irrigating ditches during the months of the long summers when they are needed. The cost of the system is estimated at \$450,000,000. This seems a staggering sum at first thought, but when a total is made of the estimated cost of the smaller reclamation and irrigation projects embraced in this same territory, which are being considered at the present time, and a conservative estimate is made of the benefits to be secured from the millions of acres of land which would come under the big project Mr. Marshall's idea looks like a sound business proposition.

THE DAY OF THE BIG HORSE

There is little question but that out of all the classes of horse flesh affected by mechanical vehicles and tractors, two only have much in the way of a bright future from the present outlook. The saddle horse is rapidly growing in favor all over the country, and he seems likely to get a still stronger position as a factor in

clean, healthy sport and pleasure. The heavy draft horse also has a good future for years to come at least. One of our correspondents writes us of one of his recent sales which is typical of the present condition of the draft horse market. He states that he just sold a bunch of horses, all of which, except one, were of the common sort which are crowding the markets, and that the price realized for the lot was not satisfactory. The one exception was a heavy horse of good draft type that sold for \$250. Now this only goes to confirm what we have said before many times. There is a demand for draft horses of the right kind, and there are plenty of buyers who will pay the price to secure horses of the proper weight and type. To meet this demand we can not depend upon the small mares that are all too numerous on our coast farms. We are fairly well supplied with draft stallions, but there is a vast amount of selection and culling to be done among our mares before the really profitable draft horse demand can be met.

SPRING SILO TIME WILL SOON BE HERE.

About a year ago this time we started out on a little four thousand mile trip which took us to hundreds of farms from Red Bluff, in the Sacramento Valley in California, to Mesa, in the Salt River Valley in Arizona. One of the objects of our trip was to find out how many silos there were in this territory, and why there were not more of them. We located in all some thirty silos of various types of construction, and never found a single dissatisfied owner. At the same time we secured all the reliable data in the form of figures on actual costs and results of feeding, and by personal talks and through these columns advised owners of dairy cattle, beef cattle and sheep to investigate the silo idea and see if it could not be applied to their own business. The result has been most satisfactory, for during the past year other agencies have taken up the silo idea and much information has been given out on the subject. A number of men with whom we talked on our trip have since written us that they have built or will soon build a silo, and the present time is opportune to again remind every farmer that it is now that the silo should be built to take care of the first cutting of alfalfa. A silo should be very carefully constructed, otherwise there is the chance of waste through faulty building, and the silo that is put off until the rush of the alfalfa season is here is much more likely to be hastily and faultily built. It is good business to get the silo up now during the season when other work is not so pressing.

AUTHENTICATED TESTS OF DAIRY COWS.

We are persistent in urging all breeders of registered dairy animals, regardless of breed, to establish the volume of productiveness of their cows through authenticated or official testing for milk and butter-fat.

Listen to this advice recently sent out by American Jersey Cattle Club:

"The evidence which is to convince the dairying public of the merit of the Jersey is to be obtained through the authenticated tests.

"Every up-to-date and progressive dairyman should now realize that the great value to him personally of official testing is that it shows him which cows he should discard and which ones he should retain, for his greater profit and to transmit to offspring their valuable characteristic of economical production of butter-fat.

"The owners of dairy herds, whether they do or do not keep purebred cows,

are today more and more demanding definite information in regard to the producing ability of the dams of the bulls they are asked to buy and place at the heads of their herds.

"A breed of dairy stock can only survive in the stiff competition of today through the authenticated tests of its animals."—Prof. A. L. Haecker.

"The future development and progress of the Jersey breed will very largely depend on how Jersey breeders regard these facts."

What is said by A. J. C. C. to its members can just as logically be put up to every breeder of dairy cows, no matter what their breed may be.

We have stated before, and we say it again, that the improvement of the dairy cow through authenticated or official tests, should begin in the purebred herds. When the boarders have been weeded out of the registered ranks is time enough to talk to the owner of grade dairy cows about the economy of weeding out his scrub boarders, and building up his herd through the use of a purebred bull.

Advising a dairyman, who owns a herd of grade cows, to get into a cow testing association, sell to the butcher all cows not making three hundred pounds of fat per year, and then turning around and loading him up with a registered bull out of a cow that may not be capable of yielding two hundred pounds of fat in a year seems to us about as logical as to advise him to use his strainer for a milk pail. If followed which of the two pieces of advice would cause the greatest leak?

SOMETHING NEW.

It has been brought to our attention that the mail order house of Weinstock, Lubin & Co., of Sacramento, Cal., is giving, during January and February, free delivery on all merchandise purchased from them. Many of the Eastern mail order houses and several in the West extend the service of free delivery, but only on wearing apparel. The plan of Weinstock, Lubin & Co., however, completely surpasses any method of distribution yet attempted by any mail order house, for they will not only deliver wearing apparel free of transportation charges, but will also deliver free, staples such as hardware, stoves, tools, etc. This new phase of service means that the farmer wiving away from town will receive the same service as his city brother.

According to Weinstock, Lubin & Co.'s statement the merchandise will be sold at the same prices as before introducing this new feature. They feel that by the new method they can divert much of the business that now goes to the East and thereby increase their business to such an extent that it will be profitable for them to continue this new service of free delivery of everything.

This plan can be made so comprehensive and of such great economic value to the farmers of the Pacific Coast that we have no hesitancy in giving it a most prominent position in the Journal. Weinstock, Lubin & Co. have established one of the most remarkable standards of honest merchandising in the West, and it is because their new plan is backed by a record of the strictest integrity that we wish to bring these facts conspicuously before our readers.

The good dairy farmer has more points of contact with all the different branches of agriculture than any other man. He is not only a producer of milk and butter; he is a manufacturer, a merchant and a trader; he must know soils, breeding, crops and machinery; he is a conservationist of the highest type, for he not only practices diversified farming, but he also balances all the various diversities.—Hoard's Dairyman.

THE DAIRY

How Much Milk To Feed The Calf

The proper amount of milk for a calf is a matter which has come up for a great deal of discussion, which, of course, means that there is a wider diversity of opinion as to the most economical amount; and by "economical amount" we mean, of course, the amount best suited to the proper development and growth of the calf.

Professor C. H. Eckles of the University of Missouri has given this subject a considerable amount of careful study, and in his experimental work at the college has developed the fact that for the first two weeks, five or six quarts per day is all that the largest calf should be allowed to have, and that smaller calves should have from five to six quarts, or ten to twelve pounds per day. The calf is designed by nature to take its milk in small quantities, and it is usually the over-fed calf which develops indigestion and scours due to gorging.

While the daily ration may be fed a calf in two feeds, twelve hours apart, better results will attain if the amount is fed in three feeds about eight hours apart. This will apply with special force to the calf under eight or ten weeks old. As the calf develops it can, of course, use to advantage more milk, but it is safe to say that more calves are injured by over-feeding than by under-feeding. Where calves are being raised on skim milk and when the supply is bountiful, the temptation to over-feed is great. Sixteen to eighteen pounds of milk per day is a generous amount to allow even a large calf. In exceptional cases twenty pounds may be used for a very large calf.

Attention is called to the fact that in the case of skim milk being fed to calves, the removal of the butter-fat from the milk does not so change the composition of the milk as to require a larger amount of it than were whole milk fed. This is a fact which needs wider dissemination, since most people believe that only by feeding a great bulk of skim milk can a calf be profitably grown. As a matter of fact, the removal of the butter-fat renders the milk richer in flesh forming materials, and it is a very easy matter to throw the skim milk calf out of condition by over-feeding.

Where a bunch of hand raised calves are kept together, it is essential that provision be made so that each one will receive his exact ration. It is impossible to develop an even bunch of calves where they are fed in a common trough. Small stanchions should be provided and the trough or box so arranged that the calf can not upset his pail. If the calves are kept in their stanchions for say a half hour after each feeding they will develop the disagreeable habit of sucking each others' ears.

It is highly important that the pails in which the calves are fed be scalded each day. This should be attended to in a thorough manner. The milk should always be fed sweet and in uniform amounts, and much will have been done to avoid the bane of the calf raisers' existence—scours. As a remedy for scours the writer has never found anything to equal blood meal or blood flour. This is easily procured from dealers, or from any of the great packing houses. A heaping teaspoonful may be fed with each meal as a preventive remedy. Blood flour

is highly nourishing, and, in a measure, replaces some of the elements removed in skimming.

Skim milk should always be fed warm and at a uniform temperature. No animal is more sensitive to the temperature of its feed than the calf during the first few weeks of its life. From 95 to 100 degrees F. is the proper temperature where best results are desired, and it is suggested that a thermometer is the only dependable way of ascertaining the proper temperature. About the quickest way in which to "unbalance" a calf and throw him all out of condition is to feed warm milk one time and cold at another. No calf can stand such treatment and make economical returns for the feed and care bestowed upon him.

New breeders of dairy cattle do not attempt to raise calves in any other way than skim milk after the calf reaches the age of two to four weeks. The practice still prevails among breeders of purebred beef cattle of allowing the calf to run with the cow, but there is a question as to the wisdom of this practice in all cases, and especially in the event of the dam being a heavy milk producer.

In an experiment conducted at the Kansas Experimental Station an attempt was made to ascertain the cost of raising calves by whole milk as compared with skim milk. During 154 days ten calves fed skim milk and grain gained 233 each, or a daily average gain of 1.51 pounds each, at a cost of \$2.26 per 100 pounds gain. A similar number of calves were fed whole milk for the same length of time, and made an average gain of 287 pounds, or a daily gain of 1.86 pounds per head, and the cost in this case being \$7.06 per 100 pounds. Calves running with their dams for 140 days averaged 1.77 pounds gain per day, at a cost of \$4.41 per 100 pounds gain.

In estimating the above results the skim milk calves consumed 122 pounds of grain for each 100 pounds of gain made, while the calves fed whole milk were fed only 58 pounds of grain in conjunction with 21.7 pounds of fat contained in the milk. On this basis 100 pounds of grain was equivalent to 48 pounds of fat. The labor item is a factor that must be considered, particularly when a comparison is made in raising a calf on skim milk by hand and in allowing a calf to run with its dam. Where plenty of help can be secured to do the milking the labor involved is usually very profitable, and as the calves from the best dairy cows should be reserved as future members of the herd, there is seldom a valid excuse for feeding whole milk for more than a short period during the early life of the calf. In the case of the calves fed in the Kansas experiment it was found that those fed skim milk fed out as steers more economically than those fed whole milk.

DEVONSHIRE CLOTTED CREAM

The Live Stock and Dairy Journal—Could you kindly tell me in your next issue how to make Devonshire clotted cream?—A. E. F. Hueneme, Cal.

Answered by E. H. Hagemann—Milk used for making clotted cream must be rich, pure, clean and sweet. Strain the milk as soon as milked into well tinned open containers eight inches in diameter by ten inches deep, or into open pans similar to those used in shallow setting, but holding a deep layer of milk.

Quick creaming is desirable so that

DELIVERED FREE

During January and February all purchases, from any of our catalogs, will be delivered free. This offer applies equally to staple articles, such as beddings, stoves and hardware, as well as wearing apparel. It will be economy for you to take advantage of this offer. Send for our free Special Sale Circular Number 11.

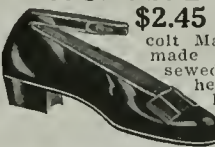
CHILD'S SHOE

58c KLS101. Nature shape button shoe for children. Made of soft selection of vic kid. Plain toe last. A nature shape shoe designed especially for infants ready for walking. Sewed flexible soles. 2 to 5.58c



WOMAN'S PUMPS

\$2.45 KLS29. Women's patent Mary Jane pumps, made with flexible sewed soles; low flat heels; broad toe last. A popular style at a popular price. 2½ to 6. \$2.45



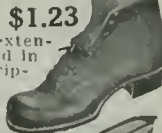
WOMAN'S BLUCHER

\$1.53 KLS184. Women's low heel kid lace blucher. Patent tips. Soles extension and sewed. Made with low flat heel. Broad rounding toe shape. Gives a great deal of service. Sizes 2½ to 8. Wide widths. In ordering, be sure to state size desired; also give correct catalog number, in this way avoiding troublesome delays. Delivered free. Price per pair\$1.53



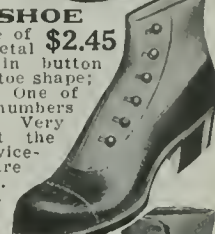
BOY'S BLUCHER

VLS102. Boys' satin calf lace blucher \$1.23 style. Good weight extension soles. Reinforced in the back to prevent ripping; solid toe caps. Medium broad toe last. 9 to 5½...\$1.23



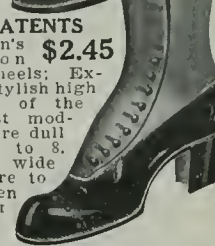
MEN'S SHOE

VLS105. Made of durable gunmetal calf. Comes in button style. In high toe shape; military heels. One of the smartest numbers in our Catalog. Very dressy and at the same time serviceable. Soles are extension sewed. Sizes 5 to 10. Medium and wide\$2.45



WOMEN'S PATENTS

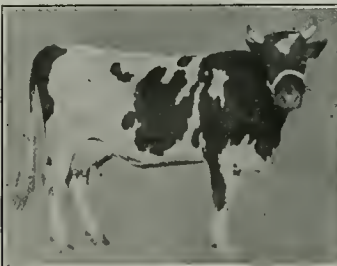
KLS106. Women's patent button shoes. Cuban heels; Extension soles. Stylish high toe last. One of the season's newest models. The tops are dull kid. Sizes 2½ to 8. Medium and wide widths. Be sure to state size when sending your order. Pair.....\$2.45



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WEINSTOCK, LUBIN & CO.
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Raymond 8th's Desire of Lewison.

ALTA VISTA HERD

OF REGISTERED

GUERNSEYS

Owned by Chas. G. Lathrop, Stanford University, Cal. A number of mature cows, some of them imported, bred and unbred helpers, and some choice bulls. A number of the helpers are bred to Violet's Pride of Iowa, whose grand-dam has an A. R. record of 912 pounds butter-fat in one year.

Inquiry or Inspection Invited.

PACIFIC GUERNSEY HERD

Offers for sale the sire GLENWOOD OF ROSENDALE (14051), a direct descendant of the great Glenwood family, a strain that produced MIRANDA OF MAPLETON (A. R. 914) 927.16 pounds fat, DAIRYMAID OF PINEHURST (A. R. 843), 910.67 pounds fat.

Dam, COUNTESS FANTINE (A. R. 344) 502 pounds fat at 2½ years, 582 pounds fat at 3½ years. Sold for \$875.

GLENWOOD OF ROSENDALE is a fine individual, and is guaranteed in every way.



Also offer four choice bull calves, ranging in age from 2 to 8 months. If interested address,

C. S. RASMUSSEN, LOLETA, CALIFORNIA

the scalding can be done while the milk is still sweet. Allow the containers or pans to remain undisturbed in a cool dairy for from ten to twenty hours, so that the cream may rise to the surface. The time of setting varies with the weather and kind of milk. In hot weather the time given may be only ten hours for fear of souring taking place, whereas in winter twenty hours or more may be allowed.

Scald the containers of milk with the cream on the surface by gradually bringing to a temperature of 175 degrees Fahrenheit, or until a wrinkled appearance develops and spreads all over the surface of the cream. For the amateur it is safest to use a thermometer, when the proper temperature can be ascertained. There are two methods of scalding. (1) by means of a stove or kitchen range; (2) by the use of a scalding or an ordinary copper boiler filled with hot water. The water method of scalding the cream is preferable. Scorching or over-scalding is hereby made less liable to occur.

After scalding and when the surface becomes crinkled in a characteristic way known from experience by every maker, the containers should be carefully moved to a cool place, care being taken not to disturb or break the "head" on it, and left for another twenty hours to cool and set.

When the clotted cream has stood for ten to twenty-four hours, depending on the temperature at which it was held, it may then be removed from the milk by using a perforated skimmer and deftly lifting up the cream, at the same time freeing it from the milk as much as possible.

When clotted cream is intended for sale, a "round" of cream the size of the tin being secured for "Tops," the effect is more pleasing to the eye.

Composition of Devonshire Clotted cream:	Per Ct.
Water	26.11
Fat	67.52
Nitrogenous matter	4.89
Milk sugar	1.00
Ash .....	.48

HOARD'S DAIRYMAN PAYS TRIBUTE TO PROFESSOR WOLL.

Professor F. W. Woll has come from Wisconsin, and is now connected with the Agricultural Department of the University of California as Chairman of the Department of Animal Nutrition. An estimate of Professor Woll's ability may be gained from the following, taken from Hoard's Dairyman:

"It is with no little regret that the dairymen of Wisconsin, particularly those who have been in the forefront of the fight for real dairy progress, learn of the decision of Professor F. W. Woll to accept the position of Chairman of the Department of Animal Nutrition at the California Agricultural College.

"Professor F. W. Woll has for the past twenty-six years been identified with the University of Wisconsin as an agricultural and dairy investigator. He has been an indefatigable worker, and the books and bulletins that bear his imprint show that they were compiled with great labor and much painstaking effort. While we have not always agreed with his conclusions, we have yet to find occasion to amend the following statement, which we made some eighteen years ago in this paper:

"All the world knows that we think Professor F. W. Woll is about as nearly accurate in stating facts and tabulating figures as it is possible for man to be. When we find his name signed to an article or appearing as the author or compiler of a book, we do not ask for further assurance as to its general reliability."

"Mr. Woll graduated from the Royal Frederik's University of Norway in 1883, became a member of the faculty of the Wisconsin College of Agricul-

ture in 1887, and at the time of his resignation was professor of chemistry. His most valuable work has been of a research and experimental nature. He was one of the pioneers in the investigation of the comparative values of feeds for feeding dairy cows, and his "American Standard" ration for dairy cows, issued in the early 90s, was for many years used as the basis for computing balanced rations. In addition to his experimental work and his analyses of feeds, fertilizers, milk, etc., he is the author of several books. His best known works are: 'Book on Silage,' 'The Farmer's Hand Book,' 'Modern Dairy Practice' (a translation of Dr. Grotenfeld's book), 'Testing Milk and Its Products' (collaboration with Farrington), as well as bulletins and pamphlets covering his various investigations."

COW TESTING ASSOCIATION RESULTS.

The most comprehensive report of Western cow testing associations that we have seen is one recently issued by W. E. Carroll of Utah Experiment Station on the Richmond-Lewiston Cow Testing Association of Logan, Utah. The report contains fifty pages, and includes interesting illustrations, tables and diagrams. At the end the following summary is given:

Cows differ in their capacity to produce economically according to breed and individuality.

This difference makes testing with scales and Babcock test necessary.

Cow testing associations originated in Denmark in 1895, and have spread to practically all countries where cows are kept. They are one of the best means of keeping herd records.

Such associations have been the direct means of making wonderful improvement in dairy herds.

It has been estimated that the average Utah cow produces only 140 pounds of butter-fat per year.

To double this production, as was done in Denmark in twenty-four years, would mean an annual increase of \$3,808,000 over the present income of the \$5,000 dairy cows in Utah.

The average yearly yield of butter-fat per cow in the Richmond-Lewiston Association was 250.8 pounds the first year and 251.1 pounds the second.

The highest herd average for the first year was 244.5 pounds of fat. For the second year it was 300.9. The low herds averaged 194.5 and 199.1 pounds, respectively.

The high producing cows were more economical than cows producing less fat.

Seventeen cows during the two years failed to produce enough fat to pay for their feed.

The difference in butter-fat yield between the most and the least profitable cow in each herd ranged from 40.7 to 324.7 pounds. A difference in profit as high as \$111.65 per year between the two is noted.

Forty-eight of the best cows would

YELLOW JERSEYS

BEAUTIES sired by Gerite's Lad, out of authenticated test cows, ages up to 5 months. Prices right.

The get of Gerite's Lad are ALWAYS SOLID COLOR, and he sires cows that give 7 gallons of rich milk a day. Buy one of his sons NOW. They sell young.

I have two yearling heifers, handsome, thrifty, sired by Olga's Melia's Pops (92000). Price right.

Papers free will all stock. Tuberculin tested herd. I keep no grades. Nothing but REGISTERED JERSEYS.

X. CARRITHERS, R. 3, Box 105, Tulare, Cal.

Reference, First National Bank of Tulare.

It Is Important

In the selection of a Dairy Bull that the vigor and development of the individual be given proper weight in the estimate of the animal.

Our Jersey Bulls are carefully developed, but are not pampered. The result is exceptional vigor in the Bulls which we send out.

Steady sales have left only a few Bulls near service age in our herd. These are vigorous, typey young sires out of dams of large and persistent production, and sired by Imp. King's Valet and Borello's Golden Laddie.

We invite you to visit our herd if possible. If not convenient to call on us, write us your wants.

N. H. LOCKE CO., Lockeford, California
NO FEMALES FOR SALE AT PRESENT

WE LEAD IN JERSEYS

We are unable to fill our present demand for Jersey heifers, and have no more for sale.

We offer a few richly bred Bulls, ranging in age from 8 to 18 months. Write for breeding and prices.

Rancho Dos Rios, R. E. WATSON, R. F. D. 2, Modesto, Cal.
Manager

B. & F. RANCH Registered JERSEYS

Our herd is headed by Merry Malden's Conquest, a handsome son of Merry Malden's 3d Son, Grand Champion Jersey Bull at St. Louis Exposition.

The females in our herd are of the best blood lines of the Jersey breed, and out of them and sired by our herd bull, we offer a few good young bulls.

For prices and pedigrees write or call,

F. O. FRAZIER, Covina, California

THE ROYAL JERSEY HERD

Offers the young bull, VICTORS FLYING FOX, solid color, dropped October 13, 1913

SIRE, SARGENT FOX (64833)—

Winner of eight firsts and eight championships prizes; also head of sweepstakes and first prize herd of eight different fairs. He has several tested daughters with good records.

DAM, VICTOR'S LADY ROSE—

She is in R. M. with a record of 443 pounds butter with first calf. She sold for \$300 before she was brought to this State.

CHAMPION FLYING FOX (64441)—
Champion winner over the Island, 1899. Sold at auction for \$7500. Sire of many tested and R. M. cows.
MISS SERGEANT P. (5407) H. C.—
Winner of five champion cups, seven first prizes, Parish prize and reserve prize on the Island of Jersey.

LADY LETTY'S VICTOR (65020)—
He is in R. M., and it is claimed that he has more 2-year-old daughters in R. M. than any other bull. Scored 97.3 of perfect scale of points.

BONNIE'S GOLDIE (176320)—
636 pounds 10 ounces butter in one year; R. M.

Who says he isn't a snap at \$250.00?

Also offer a son of Gerite's Lad, out of a grand-daughter of Golden Fern's Lad, for \$100.

ROYAL L. WALTZ, R. 2, HANFORD, CAL.

WILLOWWOOD JERSEY FARM

OFFERS FOR SALE THE HERD BULL

GENERAL GRIMM 84184

Sire Philadelphia's Glory (No. 59,033)

Sire of—	One Day Milk.
Philadelphia's Glory Zella	50 lbs. test 5.2
Philadelphia's Glory Jennie	48 lbs. test 5.
Philadelphia's Glory Lottie	46 lbs. test 4.8
Philadelphia's Glory Gerie	45 lbs. test 4.9
Loretta Grimm	52 lbs. test 4.8
Loretta Smith, official for one year, 442 lbs. butter at 2 years old.	

Dam, Baronetti Grimm 2d, at 24 months gave 35 pounds milk, test 4.9.

Kate's Royal Rex (46750)
Philadelphia (23476)

Comus Rex (26804)
Lady Kate's Rex (91751)
Forget-Me-Not, P. S. (291)
Wide Awake Imp.

Kate's Golden Lad (59197)
Baronetti Grimm (157088)
7 days record, 20 lbs. 8 oz. butter.

Victoria's Champion Lad (59197)
Gray Friar's Kate (13680)
Meek's Rex (39654)
Demile Veber Pops (125105)

This is one of the best Bulls in this State, and I am selling him because he is closely related to at least two-thirds of the cows and heifers in my herd. Price \$300.

Also offer several young Bull Calves from 4 to 12 months old. No heifers for sale at present.

C. G. McFARLAND,

R. 2, Box 45, TULARE, CAL.

be a more profitable herd than 189 of the poorest.

Wide variation in yield of butter-fat and net returns between cows in the same herd was found. This is customary in untested herds.

To increase the average butter-fat production of all the cows of the state as much as the increase shown in herd O the second year, would mean an annual increase of \$1,251,200 over the present annual value of the butter-fat. To raise it up to the standard of the Richmond-Lewiston Association would raise the value \$3,000,000.

A long lactation period is necessary to highest production.

There is no correlation between the amount of fat produced the first month and the annual record.

Dairy bred cows show a decided tendency toward a longer lactation period than scrub cows.

A cow for highest production should be dry longer than one month, but a rest longer than two months adds nothing to her powers of production.

Lactation periods of various length from 7 to 18.5 months, provided they are preceded and followed by normal dry periods, in all cases seem to yield the same fat and profit in any given length of time. The shorter periods have the advantage in the number of calves produced.

Cows freshening in the fall produced on the average 45.1 pounds more fat

and returned \$9.43 more profit above cost of feed during the next twelve months than cows freshening in the spring. The cost of feed was only \$5.33 more per head for the cows calving in the fall.

CALIFORNIA BREEDER SEES GREAT DAIRY POSSIBILITIES IN ARIZONA.

In a letter to the Journal, N. H. Locke, the well known Jersey breeder of Lockeford, Cal., is enthusiastic over the dairy possibilities of Arizona. In writing of the general character of the Arizona state fair, regarded from the live stock standpoint, Mr. Locke states that there were on exhibition several herds of Holsteins, six Jersey herds, three of Guernseys, two of Ayrshires, one of Brown Swiss, one of Dutch-Belted and one of Red Polled, while the showing in the beef cattle classes were confined to the Hereford and Shorthorn breeds. There was also a big display of horses, mules, jacks, sheep and poultry, including a dozen ostriches. Mr. Locke concludes by saying that Arizona has a big dairy future, and that a number of Arizona breeders will be seen on the California fair circuit in 1914.

ENTRIES FOR CALIFORNIA JERSEY FUTURITY NUMBER 1.

The California Jersey Futurity has met with a large measure of interest among the Jersey breeders of the State as is evidenced by the number of entries received by Secretary J. E. Thorp.

The entries for the first futurity closed on December 1st, and, as stated in the November Journal, the futurity is decided in the five-day milking contest at California State Fair. The present entries will come up for contest in 1915. Following is a complete list of entries, thirty in all, and representing twelve herds:

Guy H. Miller, two entries, get of Altama Interest; Royal L. Waltz, one entry, get of Ruth's Golden Glory; Gerald O. Hillier, two entries, get of King Polo of Bleak House; J. B. and J. E. Thorp, two entries, get of Sonny St. Helier; L. J. Dobler, two entries, get of Turlock Signal; N. H. Locke Co., seven entries, of which two are get of Grace's Fox of Venadera, one get of Borello's Golden Laddie, four get of King's Valet; W. J. Hackett, four entries, get of Lady Belle's Marigold; Elledge Andrus, three entries, of which two are get of Gertie's Jolly, one get of Browney's Chief; James A. Goodell, one entry, get of Gertie's Ideal Son; X. Carrithers, two entries, get of Gertie's Lad; C. D. Hayworth, two entries, get of Diploma's Bijou Boy; T. B. Purvine, two entries, get of Raleigh Fairy Boy 4th.

This is, indeed, a promising entry list, and judging by the quality of the bulls whose get are entered the winner will not come by her laurels easily.

The California Jersey Futurity is planned for permanence, and it ought to be the means of doing much for the breed in California. It certainly should tend to encourage authenticated tests, for such tests would be the real guide for the breeder in mating to produce the winner of the futurity.

VICTOR'S LASSAROHN TESTS WELL.

Victor's Lassarohn, one of the grand young registered Jersey cows owned by X. Carrithers of Tulare, Cal., recently completed a year under private test, and made the very good production of 447 pounds butter-fat from

Buy an Ideal Green Feed Silo Now

Now is the best time to erect a silo for the following reasons:

1st. You have more spare time now than in the spring.

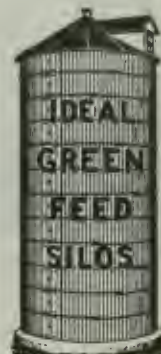
2d. You will be prepared to save your first cutting of alfalfa, which makes AI ensilage, but is almost worthless for hay on account of weeds, etc., and at the same time it is hard to cure for hay.

3d. By saving the first cutting of alfalfa or any other crop that you can produce, you are insured against burnt-out pastures, also the high prices of mill feed.

4th. We will sell you an IDEAL GREEN FEED SILO if ordered now on special terms that will almost make your silo pay for itself.

Don't wait. Buy now.

Write for special silo proposition.



De Laval Dairy Supply Co.

101 Drumm Street,
San Francisco

1016 Western Ave.,
Seattle

Pacific Coast Agents for James Barn Equipment

**High-Grade Cattle—
High-Grade Farmers**

**The pure-bred
Jersey Cow**

is one of the most high-grade animals ever developed by man. The high-grade farmer demands the high-grade cow. No breed equals the Jersey for the economical production of high-grade milk and butter. No breed equals the Jersey for intensive farming.

Send for information to
THE AMERICAN JERSEY CATTLE CLUB
324 W. 23d Street, New York

PRIZE WINNING JERSEY BULL CALVES FOR SALE.

One Is Ready for Light Service. Write for Pedigree and Price.

W. J. O'BRIEN,
1233 N. San Joaquin St., STOCKTON, CAL.

REGISTERED JERSEYS

I offer for sale a yearling son of Brown Lassie's Advocate (80045), out of Antoinette's Mona. Also two bull calves, one sired by Brown Lassie's Advocate, the other by Brown Lassie's Conqueror, and out of richly bred dams. Write for prices.

F. M. DIMOCK
R. No. 2, TURLOCK, CAL.

REGISTERED JERSEYS

Young Bulls and Heifers for sale. Sired by Interested Monplaisir and out of St. Lambert cows. Call or write for prices.

J. F. SNOVER
R. 2, CERES, CAL.

VENADERA HERD of Registered JERSEYS

Guy H. Miller, Prop.
MODESTO - CALIFORNIA

REGISTERED JERSEYS

Two Bull Calves 8 months old, solid color. Dams have unauthenticated records of 490 pounds and 535 pounds butter. Their sire's dam has record of 522 pounds.

Further particulars by addressing:
D. F. CONANT,
R. 5, Box 64, MODESTO, CAL.

8879.6 pounds of milk. The testing was done by Mr. Rousseau, tester of Tulare County Dairy Association, except for the first two months. Victor's Lassarohn has now freshened again and is being sent over the year route on authenticated test. Barring accidents she should make a mark which will place her well up with the leading cows of the breed on the coast.

BILL OF FARE WHICH RESULTED IN A WORLD'S RECORD.

It is interesting to examine the food items which were converted into a world's record amount of butter-fat by the great Jersey cow, Eminent's Bess, owned by Roycroft Farm, Michigan, during the year she lately completed under authenticated test. Here is what she converted, with its cost:

Bran, 1670 pounds 3 oz.....	\$18.37
Crushed oats, 1113 pounds 6 oz.	11.14
Hominy chop, 1113 pounds 6 oz.	13.36
Ajax flakes, 964 pounds 8 oz.....	10.42
Oil meal, 278 pounds 4 oz.....	5.01
Cottonseed meal, 100 pounds.....	1.80
Gluten feed, 75 pounds.....	1.05
Alfalfa meal, 1500 pounds.....	16.50
Beet pulp, 1650 pounds.....	20.62
Molasses, 36 gallons.....	4.86
Roots and silage, 540 pounds...	1.65
Mixed hay, 960 pounds.....	5.76
Pasture, 6 months.....	6.00

Total cost of feed.....\$116.54

It will be noted that the principal items were bran, hominy chop, beet pulp and alfalfa meal. Eminent's Bess converted \$116.54 worth of feed into 18,782 pounds 15.6 ounces of milk, which yielded 962 pounds 13.2 ounces butter-fat, equal to 1132 pounds 12 ounces butter on 85 per cent fat basis. The milk alone, which she produced in one year, figured at 10 cents per quart, the retail price in many cities, would

bring the neat sum of \$875, and it would be impossible to place a valuation upon the calf which she dropped before starting on her test.

AMERICAN GUERNSEY CATTLE CLUB NOTES.

At the recent meeting of the American Guernsey Cattle Club in Chicago a report of the club's work for the first five months of the fiscal year shows a great gain in the growth of Guernsey interests. More bulls and cows and a large number more transfers have been received than during a similar period last year.

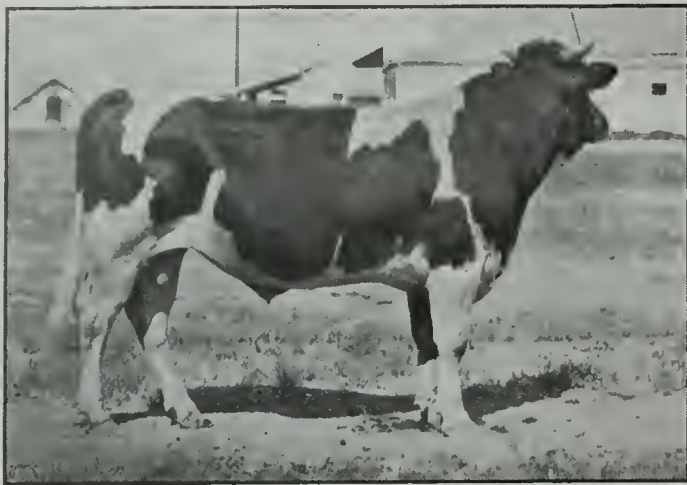
The work of 942 cows is being followed in the Advanced Register. These represent 155 breeders; 2636 cows average 8465.40 pounds milk and 423.53 butter-fat, with an average per cent of 5.003. A summary of the cattle under test showed a large majority of the breeders (122 as compared with 26), were using the two-day test period with their animals.

The Guernsey Breeders' Journal, published by the club, has gained materially in circulation during the last year, and the club has recently combined with it the publication of the entries and transfers which have previously appeared in the Herd Register. This makes the Journal a complete compendium of all data of value to the Guernsey breeder.

During the last five months 535 animals have been imported, 66 from Alderney, 398 from Guernsey and 71 from England.

The financial statement for this period shows the total receipts to be \$29,175, a gain of nearly \$5000 over those of a similar period of last year, and a balance of \$2351.65.

During the past week there were entered in the Herd Register 71 bulls and 124 cows, a total of 195; 391 transfers were also recorded.



Segis Pontiac De Kol Burke. A Handsome Son of the Great Long Distance Performer, Riverside Sable De Kol Burke. Owned by A. W. Morris & Sons Corporation, Woodland, Cal.

Government's Milk Policy

Department of Agriculture Has Set Up No Bacterial Standards—Working to Educate Dairymen to Produce and Ship Clean Milk.

The Department of Agriculture has issued the following statement outlining its policy in dealing with the milk situation in the United States.

"It is erroneously supposed that the Department of Agriculture has established absolute standards and bacterial counts to which all milk coming under its jurisdiction in interstate commerce must comply. The department has established no absolute standards. It certainly has not and will not establish any rule declaring that milk containing less than a certain number of bacteria per cubic centimeter is good milk. Under such a standard milk containing less than a certain number of typhoid or tubercle bacilli would automatically be passed as coming up to standard. A simple count of the bacteria is not in itself sufficient to determine absolutely its safety. The nature of the bacteria as well as their number also must if possible be considered. The presence of only a few disease producing bacteria might make the milk dangerous, while several thousand harmless bacteria could be present without necessarily indicating that the milk was unsafe. The presence of even a few colon bacilli is presumptive evidence that cow ma-

nure has been allowed to get into the milk between the cow and the consumer. Similarly a high count of the kinds of bacteria that normally are present in milk indicates that the milk is dirty, or that it has not been held at low temperature or that it is old.

"The department, in its milk activities, is carrying on an extensive campaign of education to help dairymen produce and market good, clean milk. This work is carried on principally by the Dairy Division of the Bureau of Animal Industry. This division exercises no policing function. It has no power under the law to seize milk or to prosecute milk dealers. Its work is purely educational. This division issues many educational bulletins based upon its experiments in the economical production of clean milk. It supplies farmers with these bulletins, and also sends men into the field to show milk producers how to make changes within their means which will raise the quality of their milk and also increase their profits. These demonstrators have helped milk producers who supply over two hundred cities. In each city these demonstrators co-operated with the local health authorities, not to help them secure

evidence or bring prosecutions, but to improve the local system of inspection whereby the inspectors can aid the milk producers of the territory to bring their milk up to the city's own standard without being called upon to make excessive expenditures.

"With the inspectors the demonstrators visit the dairy farms as friends of the farmer. They may show him that certain cows in his herd do not yield enough milk to pay for their feed. Or the demonstrators may point out certain changes in feeding which will greatly increase the yield. They help the farmer build an inexpensive milk house, and show him how a window or two or a waterproof floor for his barn, or a little whitewash or more frequent cleaning will actually increase his profits. Where desired, they explain methods of pasteurization and shipping and handling of milk. Through this bureau the Department supplies tuberculin for testing herds. These demonstrators have no power to compel the farmer to follow their advice—they merely try to show him that these measures are for his own good. They do not and can not require the farmer to pasteurize his milk. Where they find a herd that is not tested for tuberculosis, or milk being produced in an unclean way, they advise that the milk be pasteurized, using any one of a number of competing machines or a homemade pasteurizer. As a result of this work thousands of farmers have introduced new and sanitary methods of producing and shipping milk, not because they were forced to do so, but because they saw the justice of protecting their consumers and found that they lost less milk and made greater profits by following the specialists' advice.

"The Dairy Division advises the pasteurization of milk of unknown or of doubtful purity because in large measure it protects the consumer from dangers that might be incurred by using such milk in the raw state. Pasteurization is not recommended as a substitute for sanitary precautions, but as an additional safeguard where the inspection is not sufficient to guarantee the purity of the milk.

"The Dairy Division also is conducting an extensive campaign among consumers. In the first place it is trying to convince them that it costs more to produce clean, wholesome milk than to produce dirty and dangerous milk. In the second place it aims to show the householder how to keep milk after it has been delivered by the milkman. Clean milk, if allowed to become warm, if kept in unclean vessels, or if exposed to the dust of rooms or left within reach of flies, quickly deteriorates and may become dangerous.

"Whatever power the Department has to compel milk dealers to produce safe, clean milk comes to it from the food and drugs act. Under this act the Department has power to request the Department of Justice to order prosecutions or seizures only in the case of milk that enters interstate commerce. In this work the Department does not set up standards, but accepts the standards of the city into which the milk is being shipped across state lines. The Bureau of Chemistry, which has only a limited number of inspectors, does most of its work by co-operating with local authorities in the case of milk production across the state line. Where milk is found to be adulterated, it is, of course, seized. Where indications are found that the milk is not properly produced, and is likely to become dangerous, the dairyman is warned to clean up, and is shown how to improve his milk. If he fails to act on this warning, prosecution follows. The purpose of this work now being carried on around Pittsburg is not so much to protect the large cities which have their own health officers and

milk inspectors, but to prevent dangerous milk being shipped across state lines into smaller towns which have shipped across the state line from Kentucky. The results of the Government's analysis of this milk are as follows:

Year.....	Samples Analyzed	Number Adulterated	Per Cent Adulterated
1908	449	281	62.6
1909	207	49	23.6
1910	752	96	12.8
1911—Practically no milk work done			
1912	169	14	8.3
1913	211	13	6.2

"The records of infant mortality in Cincinnati from 1909 to the present time show a decrease of about 33 per cent. A number of specialists in children's diseases in that city attribute this decrease in the death of babies to local milk inspection. These inspectors working near Pittsburg found that much milk which was re-

HOLSTEIN-FRIESIANS

World's Record Holsteins

Bull calves sired by sons of King of the Pontiacs and Friend Hengerveld De Kol Butter Boy, sires of world's record cows. Write for prices and pedigrees.

CLAUSEN & PETERSON, Blacks, Cal.

HOLSTEIN HEIFERS

MOORLAND FARM now offers for sale six choice, well bred, 3-year-old Heifers and one yearling Bull. Write for pedigrees and prices.

K. W. ABBOTT, MILPITAS, CAL.

REGISTERED HOLSTEIN-FRIESIANS

Increase the value of your herd by introducing the blood of the greatest producers of the breed. We offer a number of Choice Grandsons of King Segis. Also a number of Grandsons of the world's record cow, Creamelle Vale. Write or call and inspect our herd.

F. & H. STENZEL, SAN LORENZO, CAL.

Holstein-Friesians

I offer for sale a few Choice Bulls from large producing dams and sired by Acme Pontiac, half brother to the world's champion cow. Prices reasonable, breeding considered.

J. W. BENOIT, ROUTE 2, MODESTO, CAL.

CREAMCUP HERD HOLSTEIN-FRIESIAN CATTLE and O. I. C. SWINE

Bull Calves for sale from A. R. O. dame, sired by a grandson of King of the Pontiacs, also by a son of Colantha Johanna Lad.

M. M. HOLDRIDGE, WOOD COLONY, MODESTO, CAL.

REGISTERED HOLSTEIN-FRIESIANS Herd Headed by

Juliana King of Riverside

One of his young bulls, also one sired by Cornelia King and out of high producing dams, for sale.

B. F. ANDERSON, ROUTE 2, MODESTO, CAL.

REGISTERED HOLSTEIN FRIESIANS

FOR SALE—A yearling grandson of the great King of the Pontiacs. Also a few younger.

WANTED—A herdsman with grown-up son who can milk, to take charge of a small herd of purebred Holsteins. References required.

McALISTER & SON, CHINO, CALIFORNIA.

Holstein-Friesian Cattle

A Few Choice Registered Bulls and 25 Choice Registered Heifers. Prices on Application.

CHAS. JAY WELCH, Los Banos, Cal.

MERCI RANCH HOLSTEINS

WE SOLD 'EM

The young grandson and great-grandson of Hengerveld De Kol. We have just one more to offer, and he is a DANDY; 2 years old, mostly white, a grandson of the great Holstein sire, King Segis Pontiac, and by a 20-pound dam. Send for picture and breeding.

We also have a few sons and grandsons of the grand champion Poland China boar, H's Big Bone. Henry's stock is the best in the State, and we have some of his best.

Address: JAY DUTTER, Superintendent Mercier Ranch, MODESTO, CAL.

SUNNYSIDE HERD Holstein-Friesian Cattle

Place a son of Arcady Pontiac Wayne Hengerveld at the head of your herd. I offer a number of vigorous young bulls sired by him. Write for pedigrees and prices.

R. F. GUERIN, Prop.,

R. F. D. No. 3, VISALIA, CAL.

We Offer Two Grandsons of the Great Sire HENGERVELD DeKOL

THE SIRE OF MORE RECORD DAUGHTERS THAN ANY OTHER BULL.

The Calves Were Both Born in December, 1912.

Prices and Photos on Request.

WE ALSO HAVE OTHER BULLS RANGING FROM 3 TO 11 MONTHS. NO HEIFERS FOR SALE AT PRESENT.

THE McCLOUD RIVER LUMBER COMPANY
McCLOUD, CALIFORNIA

fused entry into Pittsburg by the local health officer, was being sold in nearby suburbs and small towns. The Department, of course, had no power over milk produced and sold within state lines, and therefore took steps to see that milk shipped into these towns from the neighboring towns was clean and pure. The major purpose of the study is to determine exact conditions in the district so that the milk producers may be aided intelligently to produce a satisfactory product. In most cases, save where milk is actually watered or chemically preserved the Government finds that the bad milk results more from the ignorance of the farmer than from any deliberate intention on his part to produce and sell dirty milk. He commonly needs expert advice along practical lines, and this advice in most cases he welcomes and carries out as rapidly as his means permit.

"The Government's first investigation into interstate shipments of milk was undertaken in the summer of 1908, around Cincinnati, before that city had a milk inspection department. Most of the milk used in Cincinnati was to work done by the Federal Government and by the city in co-operation. At the time of the establishment of the branch laboratory in Cincinnati in 1907 no pasteurization was done and little consideration was given to the bottling and delivery of milk in a clean condition. Of the entire supply only that milk delivered by a single firm was pasteurized, and in this case pasteurization was apparently resorted to more as a means for preserving the milk than for any other reason. At the present time there are about 31,000 gallons of milk used each day in Cincinnati, and of these 28,000 gallons are pasteurized, the remainder being from tuberculin tested cows."

HALL DEVELOPS ANOTHER 29-POUND COW

L. A. Hall of Santa Clara County, Cal., is doing a great work with his small in numbers, high in quality herd of registered Holstein-Friesians. In the September Journal we noted the results of a number of A. R. O. tests made in the herd, chief of which was the record of 29.061 pounds of butter in seven days, made by Edith Mandel Wayne. Now we have another better than 29-pound record in the Hall herd to report. The 4-year-old cow Wisconsin Daisy of Sleepy Hollow established a new record for herself by producing in seven days under official test 619.4 pounds milk which yielded 29.9 pounds butter. It is too bad that owing to the fact that the supervisor who conducted the test was obliged to leave the Hall place while this cow was still gaining, she does not get official credit for the best seven days of her year. It is certain that she is a 30-pound cow, for coming as close to that mark as she did she made a substantial increase in milk flow after the test was finished, going to 102 pounds per day. She dropped two heifer calves within the year, one of which weighed 100 pounds and the other 120 pounds at birth.

Another of Mr. Hall's cows, Mercedes Korndyke De Kol Johanna, made an A. R. O. record of 557.5 pounds milk, 22.37 pounds butter in seven days.

MERCI RANCH DEVELOPS SOME GOOD HOLSTEINS.

A. R. O. work at Merci Ranch, Modesto, Cal., is bringing some good producers to the front. The latest to go on record is the junior 4-year-old cow Princess Leo Aaltje De Kol, with 464.91 pounds milk, 22.542 pounds butter in seven days. She has a fine heifer calf sired by De Kol Hengerveld Burke.

AYRSHIRE ASSOCIATION FAVORS ADVANCED REGISTRY ANIMALS IN IMPORT FEE.

The Live Stock and Dairy Journal—For general information I would say that the fees for registering Ayrshire bulls imported from Scotland, either on foot or in the dam, were placed at a figure intended to, as far as possible, insure the importation of the dairy type of Ayrshires.

As the rule stands at present, a buyer in Scotland naturally is led to look well to the ancestry of the bull he proposes to purchase.

If the bull has a dam and a paternal grand-dam with official records equivalent to our advanced registry requirements, the importation fee is \$10.

If he is buying a heifer in calf, and is careful that she is in calf to a bull whose dam has an official record, the recording fee if a bull calf is born, is \$20, but a heifer good enough individually and by breeding to import, should be able to qualify for advanced registry within three years, and then he would receive a rebate, bringing the recording fee to the minimum rate of \$10.

The popularity of the Ayrshire is steadily on the increase, which is almost entirely due to the effort of her owners to bring to the front the dairy type of the breed, both in the home breeding and in the stock imported from Scotland.

The tide has changed in Scotland, and the dairy type is in the lead, and if our breeders will steadily adhere to the course now adopted of perfection of conformation and dairy utility, there is no question but that a few years will see the Ayrshire the most popular dairy breed in the United States.

C. M. WINSLOW,
Secretary.

NOTES.

J. K. Fraser of Denair, Cal., recently sold the registered Holstein-Friesian bull, Sir Korndyke Clifden (11820), to John McMahon of Contra Costa County.

J. A. Palanda, a shrewd dairyman of Stanislaus County, and who was for several years herdsman of the Stanford herd at Vina Ranch, has just purchased the young Holstein-Friesian bull, Meri Hengerveld De Kol, sired by Pontiac Hengerveld Parthenia, the best son of the great sire Hengerveld De Kol. The youngster possesses fine show qualities as well as strong dairy type, and the new owner states that he is the finest young bull he has seen in the State. This ought to be good news at Meri Ranch, where the youngster was bred. The Meri herd is rapidly coming to the front in Holstein circles, as recent tests indicate, and their aim to aid in building up the black-and-white breed bids fair to reach the mark.

Demand for bulls from Holstein-Friesian herd of A. W. Morris & Sons Corporation, Woodland, Cal., has been heavy, and as a result there are only a few bulls of breeding age left on hand. Among the recent sales were: Lorena Gerben Korndyke to E. P. Hunt, Plumas County; Hermiana Payne Concordia to Philip Hartwick; Prince Gelsche Walker 3d to T. A. Little & Son, San Joaquin County; Segis Riverside Pontiac to Hugh Nesbit, state of Washington. This is the only bull out of better than 30-pound dam which the Morris Corporation has ever sold out of their herd. The dam of this bull, Jane Korndyke of Riverside, has a 7-day A. R. O. record of 31.47 pounds butter, and he is sired by King Segis Pontiac Emperor. Lorena Johanna Korndyke to Mrs. Asa T. Weeks, San Mateo County; Prince Abhekerk Walker to Fred March, Yolo County; Segis Bergsma Pontiac to L. E. Crellin, Mendocino County; Sir Segis Pontiac Artis, Netherland Vale Korndyke and Colantha Sir Pontiac Aagie 2d to F. M. Helm, Fresno County; Sir Spofford De Kol, Sir Pontiac Salamho and Lakeside Mollie Prince to A. Emory Wishon, Kern County. Deals are now pending which will soon clean out the older bulls, and a very choice bred, vigorous lot of youngsters are coming on to take their places.

A machine which will save a very large percentage of the cost of leveling and checking land is one of the most useful and valuable inventions that could be devised for our irrigated sections. Such a machine is now being put out by Schmeiser Mfg. Co., and as the machine was thoroughly tested out before being put on the market, and actual costs determined, its usefulness is already established.

MILK

1 Day 112 lb.
7 Days 742 lb.
30 Days 3060 lb.
1 Year 28040 lb.

BUTTER

7 Days 303 lb.
30 Days 1223 lb.
1 Yr 114232 lb.

3

THE WORLD'S RECORD FOR AGE

OPPORTUNITY AWAITS YOU

Begin the new year right by placing at the head of your dairy herd a purebred sire, bred along proven lines. No other investment will yield as great a return.

Great and persistent production, combined with dairy type, are all-important factors in the selection of a herd bull. That these qualities are possessed by this herd have been amply proven by the official test and in the show ring. Fifteen cows in the herd now have averaged over 700 pounds of butter-fat in one year, and forty cows, including many 2, 3 and 4-year-olds, average above 600 pounds fat in one year. Seven heifers have records above 500 pounds fat, and one of them over 600 pounds.

Our herd bulls have been selected from the world's greatest producing families, two being from the only two cows in the world that have exceeded 50,000 pounds of milk in two years.

Bull calves bred in the lines that have produced these cows are being offered at very low prices.

No. 1—Born November 4, 1913. Sire, PRINCE GELSCHER WALKER. Dam, PEARL BEETS, butter, 7 days, 21.28 pounds. Her sire is PEARL OF THE DAIRY'S JOE DE KOL, 75 A. R. O. daughters, and her dam is a daughter of PAUL BEETS DE KOL, 113 A. R. O. daughters, over 50 of which exceed 20 pounds in 7 days. These sires have each produced two 30-pound daughters, and they rank among the very greatest proven sires of the breed. Here is one of the most desirable calves that we have ever offered, and he is very cheap at \$200.

No. 2—Born September 3, 1913. Sire, KING SEGIS PONTIAC EMPEROR, winner of three first prizes and two championships at California State Fair. His dam is full sister to KING OF THE PONTIACS, the leading sire of the breed, and his sire a son of the first cow in the world to produce over 1000 pounds of butter fat in one year. Dam, LADY OF RIVERSIDE ETHEL, 13.44 pounds of butter in 7 days with first calf. She is on yearly test, and after three and a half months milking is producing at the same rate, testing better than 4 per cent. Her sire is a brother to the highest record 3-year-old of the breed, 1021 pounds butter in one year, and her dam is out of a cow that made 727 pounds last year and has made 600 pounds this year in the first eight months. This is a calf of great quality. Price \$150.

No. 3—Born August 9, 1913. Sire, PRINCE GELSCHER WALKER, whose five nearest dams average over 30 pounds butter in 7 days. He is a direct descendant of the only family in the world of three generations of 31-pound cows. Three sons of PRINCE GELSCHER WALKER have recently been sold at \$750 each to head purebred herds.

Dam, LADY CALLIOPSIS MAY, a splendid young cow, bred in very popular lines.

This calf is light in color, and a remarkably good individual. Price \$125.

No. 4—Born December 3, 1913—Sire, PRINCE GELSCHER WALKER. Dam, LADY FIDESSA, butter 7 days, 15.66 pounds at 2 1/2 years. Her dam is a daughter of JULIANA KING OF RIVERSIDE, and the 25-pound 4-year-old cow FIDESSA. Eight sisters to his dam average 800 pounds of butter in one year, including two 3-year-olds and one 2-year-old. A splendidly bred calf and most beautifully marked. Price \$125.

These calves will not remain long unsold, and if you want one of the best, write by return mail. Twelve bulls have been sold within the last ten days.

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Registered Holstein-Friesians

We offer for sale six young bulls ready for service. These are all sired by Riverside Prince and out of our greatest producing cows. Any one of them is a good one to place at the head of a dairy or breeding herd. Write for prices and pedigrees.

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WOODLAND, CALIFORNIA

ADDITIONAL TESTS RAISE AVERAGE IN MORRIS HOLSTEIN-FRIESIAN HERD.

A. R. O. and semi-official testing is being carried on regularly in the registered Holstein-Friesian herd of A. W. Morris & Sons Corporation, Woodland, Cal., the test herd numbering about fifty head of all ages, new cows being put on test as rapidly as others have finished.

Recent completed yearly records in the herd have raised the average production by quite a wide margin. There are now in the Morris herd three cows whose individual yearly production of butter is over 1000 pounds each, there are fifteen cows whose average yearly production of butter-fat is over 700 pounds and average milk production over 20,000 pounds, and there are forty cows in the herd whose average yearly production is over 600 pounds of butter-fat. These figures establish the fact that the Morris herd contains the largest group of high producing cows on record. When it is also taken into consideration that in the forty cow average there are included a large number of 2 and 3-year-old heifers, it seems certain that a much higher average will be reached when these cows reach maturity. There are several stars in the production records of the past year in this herd, but it is doubtful if any cow could be held to have performed more creditably than did the wonderful old cow, Aralia De Kol. Past 13 years of age, crippled with rheumatism for several months of her test period, she finished her year with the enormous production of 960.62 butter and 22901.3 pounds of milk. This completes two years of continuous testing for Aralia De Kol, during the first year of which it will be remembered that she held for a time the world's record for yearly milk production, being the first cow in the world to produce over 28,000 pounds of milk in one year under semi-official test. Her production for two successive years is 50991.3 pounds milk, 2102.95 pounds butter. Although her two year milk production is slightly less than the mark established by her world's record stablemate, Riverside Sadie De Kol Burke, yet she made a greater butter record than Sadie, and produced sufficient milk to give the Morris herd the distinction of having the only two cows in the world having an official production of over 50,000 pounds of milk each in two years. There are only four cows in the world that have produced more than 28,000 pounds of milk in one year under official test, and two of them are in the Morris herd. Aralia De Kol finished her second year of testing with a milk production of 50 pounds per day. She appears in very good condition, has been relieved of her rheumatism and it would not be at all surprising if her test for the coming year will exceed that of the past year.

Probably the most noteworthy record made next to old Aralia's was that of Pet Salambo of Riverside, that without rest from her previous year's test started in with high production and has just finished her year with a record of 1002.5 pounds butter, 22287.8 pounds milk, placing her in the 1000 pounds of butter per year class, and making the third cow in the herd that has produced more than a half ton of butter in one year.

Another spectacular performance is that of the junior 2-year-old with first calf, Aralia De Kol 3d, daughter of Aralia De Kol. She finished her year with 772.96 pounds butter, 17487.7 pounds milk. For seven-day record eight months after calving she established the best junior 2-year-old record of the year with a production of 13,234 pounds of fat 341 days after calving. It is interesting to note that the contest for this honor was between

this heifer, a daughter of Aralia De Kol, former world's champion cow, and Dutchland Colanthe Vale, daughter of Creamelle Vale, the present world's champion milk cow. The Field heifer lost the year's contest by the very narrow margin of seven thousandths of a pound of butter-fat.

Another exceptional performance was that of the 4-year-old Anna Bergsma De Kol. She finished her year with a production of 623.70 pounds fat, 16,611 pounds milk. Immediately after finishing she dropped twin bull calves, both of which are large and more vigorous than the average calf. Last year Molly Duchess Daughter was 330 days along in her year's test in 4-year-old form, and had produced in that period 457 pounds fat, when she dropped her calf prematurely. She was immediately placed on test again and finished her year with the very good production of 696.15 pounds fat, 19,754 pounds milk. She is a half sister of Pet Salambo of Riverside.

Riverside Sadie Burke, daughter of Riverside Sadie De Kol Burke, finished the year with 594.43 pounds fat, 15,932.9 pounds milk.

There is ample support of the truth of selection, hereditary tendency, upon which the purebred idea is based, in the performances of the sisters of Aralia De Kol. Among them the best production for the year is credited to Creamcup, with 701.90 pounds fat, 19,994.6 pounds milk at the age of 4½ years. Next comes Arabella E. 2d, with 674.64 pounds fat, 20,425 pounds milk. Third comes Contenta 2d, with 654.66 pounds fat, 20,145.2 pounds milk, and fourth, Electa Ignaro, with 602.90 pounds fat, 20,266 pounds milk. Four more of old Aralia De Kol's sisters are now going over the year route in the Morris herd, and it seems certain that each one will go over 600 pounds fat and 20,000 pounds milk.

Coming to the seven-day records the most noteworthy is that of Salo Canary Mercedes Burke, with 31.778 pounds butter. This makes the sixth A. R. O. daughter above 30 pounds for the bull, De Kol Burke, the average for the six being 31.499 pounds. Out of these six daughters two are in the Morris herd.

Possibly the most satisfactory records established in this herd are those of the junior 2-year-olds with first calf. The great performance of Aralia De Kol 3d is set down earlier in this article. Next in volume comes the yearly productions of Natula Pobes 2d, with 536.74 pounds fat, 15,677 pounds milk. Lady Mead Salambo, a daughter of Pet Salambo of Riverside, finishes with 516.34 pounds fat. Diodime Clyde Korndyke has not quite finished her year, but appears certain to go close to 18,000 pounds of milk.

There are now in the Morris herd seven 2-year-old heifers with first calf that have produced each over 500 pounds butter-fat in one year, and the average yearly production of the fifteen 2-year-olds so far tested is 495 pounds fat.

A. R. O. seven-day records made by Morris cows recently are as follows:

Name of Cow	Age Yrs.	Days	Milk Lbs.	Fat Lbs.	Lbs. Butter
Salo Canary Mercedes Burke	4½	7	490.7	25.442	31,778
Tilly Alcartra	5	7	706.1	24.30	29.16
Tilly Alcartra	30	7	98.06	107.80	
De Kol of Valley Mead 2d	4½	7	539.7	21.229	26.536
De Kol of Valley Mead 2d	30	7	2234.3	86.24	107.80
De Kol of Valley Mead 3d	4	7	550.6	20.126	25.16
Cream Cup	5	7	572.9	19.802	24.752
Imperial Bonia	5	7	569.6	19.781	24.726
Woodland Wilhelmina 2d	3½	7	517.1	19.573	24.466
Filled Full	7	7	489.1	19.321	24.33
Mary Korndyke 2d	3½	7	517.5	21.91	26.30
Charlotte Walker 2d	3½	7	524.9	19.333	23.20
Dorothy Konigen Spofford	7	7	500.8	17.742	22.178
Pearl Beets	7	7	458.0	17.022	21.277
Josephine Creamelle	3	7	474.6	16.512	20.64
Hiske of Riverside	7	7	227.6	22.39	26.87
Aralia De Kol 3d (11 mo. after calv'g)	2	7	325.3	13.234	16.542

NOTES.

Alfalfa hay is down in price down the San Joaquin, probably due to heavy crops and the fact that many thousands of head of cattle were sold out during the past season.

Of all classes of horses which have suffered because of mechanical vehicles, the driving horse is in the most undesirable condition. Too light for a drafter, his original field of usefulness greatly narrowed, he is at the present time somewhat of a glut on the market.

N. H. Locke Co. of Lockeford, Cal., have moved a large number of registered Jersey bulls recently, leaving only a few of breeding age on hand. Since the fairs closed eight head have gone out to individual buyers, and one of the most pleasing features is the fact that in a number of instances at least they were bought by dairymen who are buying their first registered bull. There is an exceptionally uniform lot of young bulls coming on in the Locke herd, most of which are the get of Imp. King's Valet and Borello's Golden Laddie.

The Fresno Poultry Show was a decided success. There were a large number of entries of high quality, and the whole show indicated a fine development in the poultry industry around Fresno.

Dairy cows in Fresno County, Cal., are not being offered for sale in any large numbers, and prices are ranging high. There were a great many good cows shipped out of this section during the last year, and now that local demand is again active prices are responding. A Journal representative states that during December he saw a common herd of good milkers sell at \$125 per head. At that time butter-fat in Fresno was bringing from 40 to 42 cents per pound.

There is a good bunch of registered Percherons offered for sale in this issue by F. F. Martin, Reno, Nev. The 199 pound 3-year-old stallion whose picture decorates the advertisement is an especially good specimen.

In a recent letter to the Journal G. U. Clark of Kings County reports the sale of the junior yearling registered Holstein-Friesian bull, Meg o' the Mist Legend 2d, to Peter Reiterk of the same county, the young registered bull, Paul Gordon, to M. J. Avila, and the registered bull, Victor Barnum, to J. H. Pennent. Mr. Clark also purchased from the Minnewawa herd of the late Mrs. M. D. Eshelman Sherman, the young bull, Prince Oula Pontiac Paul, and the cow Kathleen Margaretta De Kol, a large cow of fine type.

EVERY JERSEY BREEDER SHOULD HAVE THIS BOOK.

The American Jersey Cattle Club has just issued a new volume of A. J. C. C. Register of Merit. This contains all entries received between August 1, 1911, and November 10, 1913, altogether 1317 cows and 77 bulls.

The book also contains alphabetical lists of 982 sires, with all of their Register of Merit daughters to date, and of all animals in the Register of Merit.

This book contains about 560 pages, 70 illustrations and is bound in cloth. The only charge for this book is 25 cents to cover postage, and by sending that amount to American Jersey Cattle Club, 324 West Twenty-third Street, New York City, a copy may be obtained. This book should be in the library of every Jersey breeder or intending Jersey breeder in the land.

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7	7:10a	8:45a	9:00a
13	9:10a	10:50a	11:05a
17	10:15a	11:45a	12:05p
23	12:15p	1:50p	2:05p
29	2:10p	3:45p	4:00p
35	4:10p	6:50p	6:05p
41	6:20p	7:53p	8:10p
47	9:00p	10:34p	10:55p

NORTHBOUND.

No.	Leave Stockton	Leave Lodi	Arrive Sac'mto
4	6:00a	6:00a	7:55a
10	7:45a	8:00a	9:35a
16	10:00a	10:05a	11:45a
22	12:05p	12:20p	1:55p
28	1:45p	2:05p	3:35p
34	3:45p	4:05p	5:35p
40	5:45p	6:05p	7:35p
46	8:30p	8:40p	10:20p

STOCKTON-LODI SERVICE.

Leave Stockton.
A. M.—6:15, 6:05, 7:00, 8:00, 9:00, 10:05, 11:05.
P. M.—12:15, 1:10, 2:00, 3:00, 4:05, 6:05, 6:05, 7:10, 8:30, 9:55, 11:20.
*Daily except Sunday.

Trains Leave Lodi.

A. M.—12:05, 6:05, 7:00, 8:00, 9:00, 10:05, 11:05p.
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Lockeford Stock Farm

An Estate Built Upon the Jersey Cow

Any large business success may be viewed from a number of angles, any one of which may be featured as the cause. Ask N. H. Locke the source of the success of Lockeford Stock Farm and he will very promptly reply "The Jersey cow did it." So, while the writer somewhat disagrees with the modesty which Mr. Locke displays in shouldering all of the credit upon his favorite Jerseys, yet the records of the farm prove quite conclusively that they contain the story of what the Jersey cow can and will do when properly handled.

In order to get a true idea of what has really been accomplished through the Jersey cow at Lockeford it is necessary to go back to the beginning of the history of the town of Lockeford, which is built upon lands belonging to the original Locke holdings.

In 1850 Dr. D. J. Locke, a practicing physician and graduate of Harvard University, with his brother, Elmer H. Locke, took up five hundred acres of land immediately surrounding what is now the town of Lockeford. The partnership continued for four or five years until the death of Elmer H. Locke. Afterward Dr. Locke acquired additional lands until finally he had about eleven hundred acres surrounding Lockeford, about eleven hundred acres of foothill land south of the town of Burson, and six hundred and forty acres known as the Blue Mountain Ranch, in Calaveras County. The Burson and Blue Mountain ranches were used principally as grazing land for sheep, while the Lockeford ranch was given up to grain raising, beef cattle and dairying. Dairying has been carried on continuously on this ranch since the early 50s, and during the lifetime of Dr. Locke the dairy herd was composed of high-grade Shorthorns, the Doctor making it a practice to use only the best Bates bulls, buying them as calves after having seen their mothers in milk, and the calves once bought were taken to Lockeford, put on a good cow and carefully developed. The ranch turned off a great number of high-class Durham dairy and beef animals, and Dr. Locke created quite a sensation at the California State Fair one year by exhibiting a steer weighing twenty-nine hundred and seventy pounds. This steer is probably well remembered by some of the older cattlemen of the State.

In 1886 Dr. Locke met with an unfortunate accident which caused his death in 1887. Besides his large estate he left a widow and thirteen children, of whom seven were minors. It was his request that the estate be held intact until the youngest child reached his majority, and to his son, N. H. Locke, the present head of N. H. Locke Company, he left the management of the estate and the education of the younger children. It is only fair to say here that the man-

agement of the estate in the hands of N. H. Locke was of such nature as to allow of the carrying out of the plans of the father, and the minor children were educated according to their bent, one going to Harvard, two to Boston School of Technology, one is now a practicing veterinarian, one was sent to Boston Conservatory of Music, one to State Normal School, San Jose, one to University of California, and so on until all were provided for out of the earnings of the estate.

It was practically at the beginning of N. H. Locke's management of the estate that the Jersey cow made her first entry into the destiny of Lockeford. Or rather it was a Jersey bull that paved the way. Mr. Locke, in the course of his very practical work in the dairy herd during the lifetime of his father, had come to the conclusion that Shorthorns might be all right for beef, the end to which nature and the guiding mind of man had shaped them, but that in the dairy business a greater margin of profit could be secured from a different type of cow.

Here was a man grown up with Shorthorns, who by all the rules of education and habit should have stuck to Shorthorns, but who believed that somewhere there was a type of cow better suited to produce butter-fat at a profit, and he accordingly sought out his type with an open mind. The choice finally fell to the Jersey breed, and the first act was to procure a purebred bull of the breed. This bull was mated with the Shorthorn cows, and as their daughters came to breeding age other Jersey bulls were bought, until finally the herd was transformed into one of grade Jerseys. However, the purebred idea, so far as breeding purebreds was concerned, had not yet found a fertile spot in Mr. Locke's mind, and today he smiles when he relates how he never wanted to take the registration papers with the purebred bulls he bought for service in building up his herd.

This grading up process lasted about twelve years, or until 1899, when the youngest heir became of age, and Mr. Locke's management of the estate terminated by its distribution.

In order to equally distribute the estate among the widow and twelve surviving children, the land was divided into classes, so much river bottom, so much upland, so much timber land, etc. Each of these classes was then divided into twenty-six equal portions, a slip corresponding to each portion was numbered and all the slips placed in a hat. The ownership of the various parcels was then determined by drawing, the widow drawing every other slip, and each child one. It was as a result of this drawing that N. H. Locke received as his



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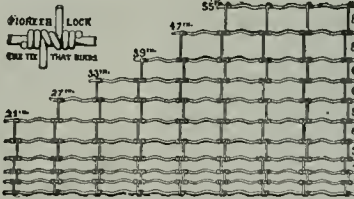
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share of the estate thirty-five acres of river bottom land and thirty-five acres of upland, and it is upon these seventy acres, plus the Jersey cow, that the holdings of the present N. H. Locke Company have been built. Note, please, that the land holding was only seventy acres, a beginning modest enough to suit the pocket-book of the most ambitious homeseeker. The dairy herd of the old estate at the time of its distribution consisted of fifty some head of grade Jersey cows, and these were purchased by N. H. Locke.

It was about this time that the purebred Jersey germ sprouted and began to grow in the mind of Mr. Locke. His first purchase after starting in for himself was to buy the registered Jersey bull Jack R., and this time he took especial pains to secure the registration papers. The next purebreds to be added to the herd were the cows Derreen C. Marigold and Lady San Joaquin, first and second prize aged cows California State Fair, 1904, purchased from the Chisholm Estate.

In 1907 Mr. Locke made his first showing at the State Fair, winning only one ribbon, a blue, and two years later, in 1909, made a trip to Oregon and secured by purchase fourteen head of registered Jerseys from H. West and five head from Atkinson Brothers. There is no question but that the selections made by Mr. Locke in these purchases were of the greatest influence upon the present herd at Lockeford, and while it is now certain that some of the individuals in these two lots are going to leave a strong imprint upon the Jer-

seys of the Pacific Coast, yet it will be some time yet before their greatest worth can be determined. The Oregon purchases included Empress Lass, grand champion Jersey female at A. Y. P. Exposition; King's Valet, grand champion Jersey bull at A. Y. P. Exposition, who has been several times grand champion Jersey bull at California State Fair, and among the other cows which have since achieved prominence, were Golden Biddy, Imp. Derry Circassian, Golden Leda of Sunny Bank, King's Daughter, Dairy-maid of Sunny Bank, Blondie's Beauty, Lemola Belle and Topsy of Sunny Bank, nearly all of which, except Empress Lass and Lemola Belle, are of pure Island breeding of Golden Lad strain.

Now to turn backward a bit, the product of the Locke dairy for the past eighteen years has been sweet cream, and it is well to keep that point in mind in relation to the story of the development of the present Lockeford Stock Farm, and the probable and apparent profits extracted from the Jersey cow.

Starting in 1899 with seventy acres of land, without improvements of any kind and a herd of fifty grade Jersey cows, the cows have been manipulated to produce the money to secure additional land and make additions and improvements until today the holdings of N. H. Locke Company are eight hundred and forty acres of land with adequate houses and barns, and there are about one hundred head of registered Jerseys upon the place.

Part of the land is upland, utilized for the growing of hay and grain. This upland will produce two crops

of alfalfa per year without irrigation, and has produced profitable crops of corn. To get some idea of the value of manure as a fertilizer, Mr. Locke selected a field of this upland which had produced thirty-five loads of grain hay in one crop. Half of this field was manured and the following year produced seventy loads. Then the balance of the field was manured and the next year's crop was one hundred and five loads of hay, an increase of 200 per cent in yield over the unfertilized years.

The country surrounding Lockeford is the kind which at once gives the visitor the impression of a "stock country," rich, alluvial, easily manipulated soil and a well wooded appearance. In fact, speaking of the woods, there are some bits of oak shaded roads just out of Lockeford well worth a long trip to see.

As stated before, thirty-five acres of the present Locke lands were river bottom lands, bordering the crooked, sometimes raging, Mokelumne river. Owing to the crookedness of the river and the immense volume of water poured into its channel during the spring freshets, bottom land was of uncertain value, and a source of constant trouble. Nearly every farmer along the river had his own private system of levees, and if they succeeded in diverting the water from his lands it little mattered if the diverted flood swept away his neighbor's crops. So primarily the Jersey cow was put to work on the Locke farm to provide the wherewith to acquire additional lands up the river as a protection for the thirty-five acres. And she did her duty nobly, with the



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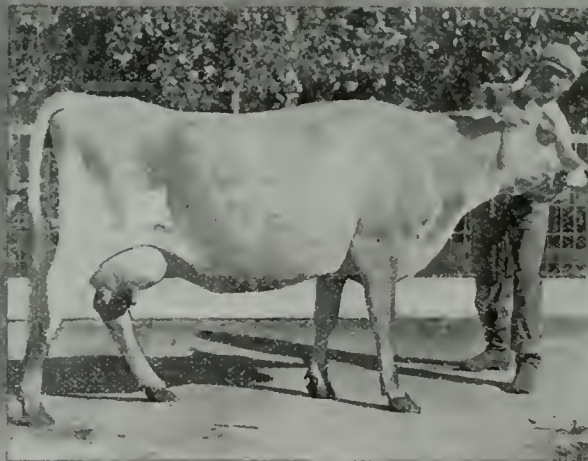
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(Top right)—Golden Biddy. One of the Original Good Ones and a Dam of Some of the Best Young Stock in the Present Herd.

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result that in all some four hundred acres of the present Locke ranch is Mokelumne River bottom land, fully protected by levees against the flood waters of spring, and the whole is a part of an organized district which has straightened and channeled and leveed the Mokelumne until it manages to keep within its banks in its mad spring rush.

Four hundred acres there are of the kind of bottom land which is of immense producing capacity. About two hundred acres are already in alfalfa, and this year six cuttings were taken off without irrigation. From land seeded in April one crop of grain hay and three crops of alfalfa were harvested. On this river bottom there is one continual round of new mown hay from May until October each year.

The present plans for Lockeford Stock Farm contemplate a reduction in acreage down to three hundred acres. This will be practically all bottom land and in alfalfa. The buildings will be built upon the bluff which is the street level of the town, and will overlook the entire farm. Modern barns will be built, and I believe Mrs. Locke has some very decided ideas about a house, and the whole place will be thoroughly equipped as a modern dairy and breeding establishment. The system will include two reinforced concrete silos, built into and against the bluff on which the barns will stand, and there will be no pasturing of alfalfa, as Mr. Locke is convinced that the pasturing of alfalfa fields is a wasteful method.

In the development of a herd to the point of profitable butter-fat production to which the Locke herd has been developed, it is of interest to study the methods used, and it would be impossible to point out any one feature of the plan as the vital one. It is rather a number of features which, in combination, effect the desired result. It would seem, however, that a solid foundation was first laid by an unusually happy selection of foundation stock. After that comes an intelligent mating of animals, then proper feeding methods, and last but of great importance, the raising of a large percentage of the calves.

Mr. Locke personally decides upon the mating of all animals, makes sure that all cows are thoroughly milked

out at each milking and attends to the feeding of the calves. The feeding and development of the calves is here given its proper position of importance in the upbuilding of a great breeding herd, for what shall proper mating avail if the offspring is killed off through neglect or careless feeding? A feeding of cold milk, or a feeding of frothy milk is sometimes too much for the frail young life of a son or daughter of a champion sire or dam.

Milk is the great upbuilder in the Locke herd. Not only are the calves fed their proper quantity, but some of the prize winners in the herd have been able to get greater growth through being fed on milk long after their calfhood days.

At present the entire milking dairy herd is being fed on alfalfa and dried beet pulp. The beet pulp was experimented with for a considerable period before being adopted, and the results now being secured from its use are very highly satisfactory.

The entire herd of cows are milked by machine, four units being used, and the seventy cows now in milk are milked out in a little less than two hours. In most cases the machines milk out clean, but as a precautionary measure the udder of every cow is examined, and she is stripped if necessary.

Since Mr. Locke counts his own efforts so modestly and places the bulk of the credit for the success of Lockeford Stock Farm upon the graceful form of the Jersey cow, let us see what she has actually accomplished. Given seventy acres of land she has in fourteen years multiplied its acreage by twelve, protected it against floods, improved its fields, built its buildings, reproduced her kind until there are an hundred of her, and each generation better than its parentage (although none of the youngsters have been able to beat their daddy, King's Valet—yet), and today she is just about to be given a better chance than ever to continue her good work.

The present N. H. Locke Company, owners of this Jersey cow estate, is composed of N. H. Locke, Mrs. N. H. Locke, their three daughters and their three sons, Chester C., Howard C. and Nathaniel C. Chester and Howard are both actively engaged in the development of the herd and farm, while Nathaniel has some years of school before him yet.



Imp. King's Valet, Grand Champion Jersey Bull at A. Y. P. Exposition and Several Times Grand Champion at California State Fair—Senior Herd Bull at Lockeford Stock Farm.

SOME FACTS ABOUT CORN GROWING

(By William Galloway.)

I have just finished 2500 miles of travel through the corn belt. Some of the facts that I have learned from the best corn growers have really been a surprise to me. In hundreds

of localities I have found farmers declaring that their corn crop was not what it should be, even with the aid of good seed. And in these same communities wherever there was any low, black soil, which had been considered as almost worthless, the owners were tiling it out and breaking it up with a view to using it for corn land be-



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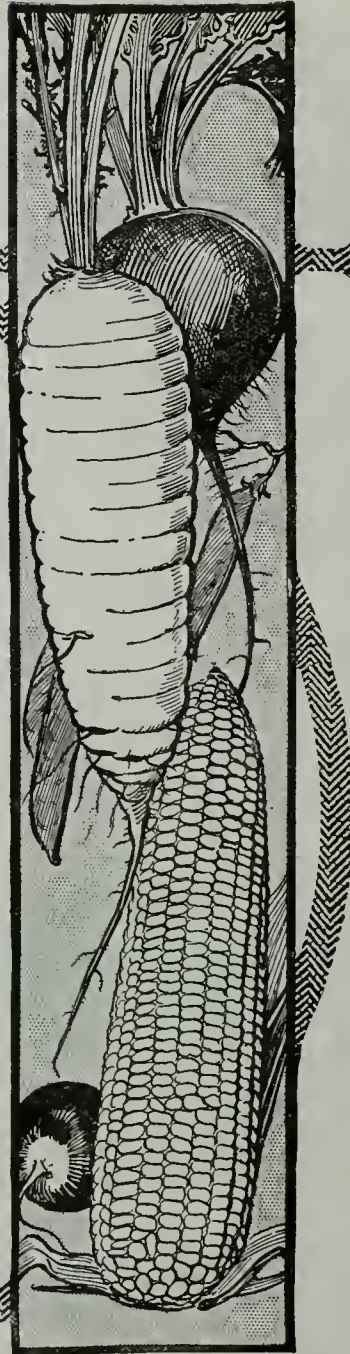
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cause it was virgin soil and would produce the greatest crops.

The ordinary slough that can be drained is most always found black and rich, and it will grow the heaviest crop of corn you ever saw if it is cultivated properly and the best of seed is used.

Wherever I found farmers and stockmen growing large acreages of corn and feeding it out to hogs and cattle, I stopped and made inquiries of these farmers, asking them whether or not the corn crop was up to the high mark of a few years ago, and in every case I was told by these good farmers that in spite of their returning to the land all the manure produced on the place, the soil was not giving them the corn crop that it should. Of course, those farmers who had the most manure to return to their soil got the heaviest yield of corn per acre.

A number of farmers who are in the habit of hogging down their corn and also allowing their steers to run in the corn field with them, thus practically returning every pound of available fertilizer to the soil, declared that their corn crop, in spite of the most modern methods of cultivation and the best seed, was dwindling down.

There is a lot of difference in the farming method of the man who takes virgin soil and grows from 80 to 125 bushels of corn per acre, and the man who gets hold of land that will not grow more than 30 to 40 bushels per acre, and gradually built it up to a point where it will produce as much as virgin soil. If it was not for the decayed vegetable matter which accidentally gets into soils, not a pound of fertilizer would be returned to much land that is steadily planted to corn. The amount of manure produced on the average farm is not enough to properly fertilize the average corn belt acreage on the average corn belt farm.

It is right here that the vetch plant comes in so nicely to the wise corn grower who wants to keep up his heavy crop year after year. Vetch will grow in any well drained soil. Wherever corn can be grown it will thrive.

The chief drawback to planting vetch has been the price of vetch seed. Now that a scheme has been worked out whereby every farmer can grow his own vetch seed and dispose of a portion of it to his neighbor for his planting at a good price, the planting of vetch when the corn is laid by is soon going to be practiced widely.

Vetch can be sown with rye and pastured the same as rye in the fall, and then will come up in the spring and bear heavy pasturage again. When if the stock is taken off of it, it will go to seed with the rye and can be harvested and threshed and the seed easily separated from the rye because of the much larger size and different shape.

The average corn grower does not know that a crop of corn takes from a soil about \$35 worth of nitrogen, which is the basis of all plant foods; but after once determining this for himself, he can see that a continual cropping of his soil without returning this essential plant food means that his corn yield is bound to decline every year until something is done to make his soil richer with the plant food that the corn crop demands.

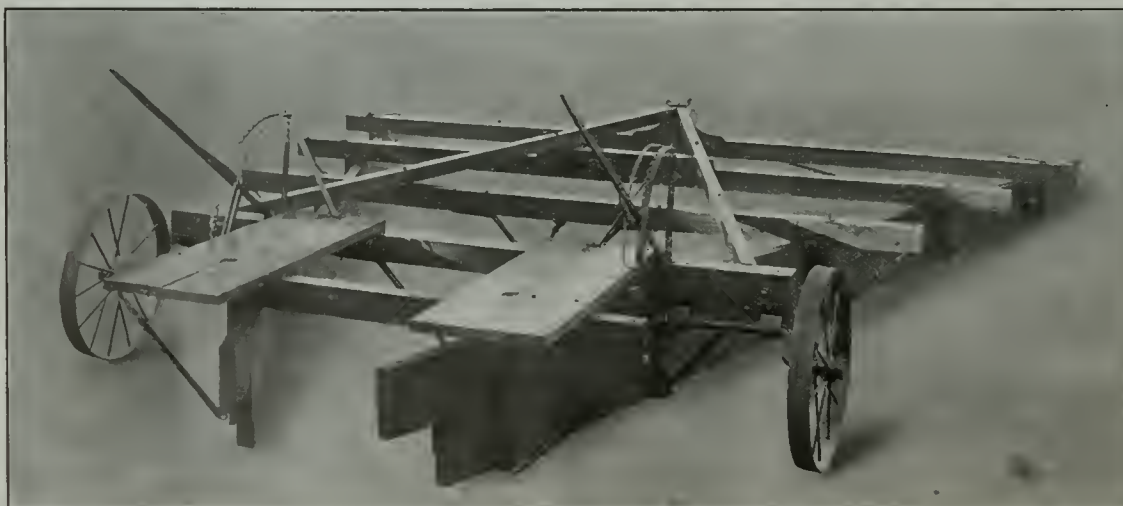
Generally stated, every bushel of corn taken from the soil means a pound of nitrogen taken out of the land and about four pounds of potash and three and one-half of phosphorus.

Vetch sowed between the rows at the last plowing of the corn will put into the soil as much or more plant food than the corn crop has taken out of the land according to the thrift with which it grows.

The more rank the growth of vetch, the more good it will do in fertilizing the soil. If your vetch seed is well inoculated before sowing and the proper amount of seed per acre (about 30 pounds) is used your crop of vetch

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will return as much or more nitrogen to the soil than your corn crop has removed.

A good plan for the average farmer to try in determining for himself the truth of this statement is to sow five or ten acres of vetch in his corn at the last plowing, provided he expects to use the ground for corn the following season. If you want a heavy growth of green manure to turn under it is not a good plan to pasture the corn field after the crop is gathered, because all stock will go to the vetch for pasture during the fall and winter and early spring, and will not leave you a heavy crop to turn under.

Plowing under a heavy growth of vetch is giving the land a good deal more fertilizer per acre than plowing under the best stand of clover you ever saw. For years clover has been considered the greatest of all green manures.

Try some vetch in your corn field next year. Be sure that your seed is well inoculated so that it will take hold and grow strong and rank. Without the proper bacteria on the roots of the vetch plant, it might make as poor showing as some seedlings of clover which are uninoculated or sown in soils that lack the friendly little germs that make for heavy, vigorous growth.

WHAT CONSTITUTES BENEFICIAL USE OF WATER IN IRRIGATION.

Definitions Adopted by Conference of Officers of Departments of Interior and Agriculture.

Under the laws of water rights as established by legislation and court decrees in the arid states of the West, the final test of a right to water for irrigation is that the water claimed shall be put to a beneficial use. As expressed by the laws of several states, "beneficial use is the basis, the measure and the limit" of rights to water. These laws, however, do not attempt to define "beneficial use."

At a conference of the project managers of the United States Reclamation Service and representatives of the Department of Agriculture, held

at Salt Lake November 12th to the 15th, a resolution attempting such a definition was adopted. This definition is somewhat long and detailed, but in substance is as follows:

A water user is entitled to that "amount of water that will render him a reasonable maximum amount of good with a reasonable economic handling of the water." He is entitled to the protection of the state in this right, but, in return the state has a right to demand that he use reasonable care and judgment in conveying and using water and cultivating his crops.

The conference adopted also a definition of "economical use," which was, in substance, as follows:

Since the water supply available for irrigation in the Western States is adequate for only a relatively small percentage of the entire irrigable acreage, the fundamental standard of economical use must be the financial results accomplished per acre-foot of water applied, rather than the yield per acre irrigated. In future development the doctrine of beneficial use must in many cases merge into or be supplanted by that of economic use. The doctrine of beneficial use looks to individual interest; that of economic use to the general welfare of society as a whole. So far as possible water charges, systems of distribution and regulations should be so adjusted as to make the interest of the individual water user coincide with this public interest.

FEED AT THE PANAMA-PACIFIC INTERNATIONAL EXPOSITION.

Arrangements have been made by which the Department of Live Stock will supply feed for all classes of animals on exhibition at cost. This involves a large amount of work in securing the various feed supplies at the proper time. It involves the erection of a special building for the storage of this feed, and it involves a considerable investment of money. The Department of Live Stock, however, feels that the results will justify all the trouble and expense in the protection which it will afford to the exhibitor against extortion by unscrupulous dealers. Plans have been made for the erection of six or more silos of different types and the filling of these silos with corn and perhaps Kafir or milo. These silos will be prepared and filled in the fall of 1914, so that the exhibitors who desire to use silage will find it all ready for them on their arrival at the opening of the Exposition on February 20th.

Careful estimates of the cost of various materials has determined that feed of substantial quality will not vary in price materially from that of the corn belt states. Alfalfa is fully as cheap in San Francisco as it is in Kansas City, the center of the alfalfa growing district. Grain of various kinds averages in price about the same as in the corn belt states. California and other coast states are not ranked as corn producing states, though they each have large areas where corn is grown profitably. In fact, California corn is unusually fine when grown in suitable localities. The yield of alfalfa is very heavy, and other hays and the smaller grains like barley will not vary in price greatly from that in other sections of the country.

It is believed that the breeders of the country will appreciate the efforts which have been put forth by the Department of Live Stock to provide every convenience in the matter of supplying different kinds of feeds, such as may be required. This, however, does not mean that the breeder shall not provide his own feed stuffs if he so desires. It is simply offered as an easy solution of the problem which must confront every breeder who plans to exhibit.

Arrangements will be made by which

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grain and fodder of various kinds will be delivered by boat at the Exposition grounds at regular intervals so that there need be no lack of succulent feed for the maintenance of view herds as well as for the use of the exhibit herds in the contest for premiums in October and November.

IMPORTATION OF ANIMALS FOR BREEDING PURPOSES.

Since 1793 the various tariff acts, with the exception of the act of May 16, 1866, have provided for the entry free of duty, under certain restrictions, of purebred animals imported for breeding purposes. This provision is continued by paragraph 397 of the tariff act approved October 3, 1913. Such animals, to be admitted free of duty, must be recorded in a book of record recognized by the Secretary of Agriculture, and the certificates of registry and pedigree are to be submitted to the Agricultural Department. The Secretary of Agriculture is authorized to make such regulations as are deemed essential to determine the purity of breeding and the identity of such animals. In order to carry out these provisions a list of the various books of record which are recognized is published as Order 206 of the Bureau of Animal Industry. This order also gives directions for obtaining the department's certificates of pure breeding, which are required by the customs officials for the entry free of duty of animals imported for breeding purposes.

Paragraph 397 of the tariff act does not require the submission to the collectors of customs of the certificates of the foreign societies, but permits the Agriculture Department to return them direct to the importers when the same have served the purpose of that department.

As paragraph 619 of the present tariff act provides for the entry free of duty of cattle, sheep and swine, the collectors of customs will not require the certificates issued by the Department of Agriculture for the free entry of such animals. Consequently the only societies (pedigree associations) recognized at the present time under the provisions of paragraph 397 are those for horses, dogs and cats.



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THE SWINE HERD

More About Hog Cholera

A great deal has been printed in these columns regarding hog cholera, but too much knowledge can not be had by swine raisers concerning this dread disease, and the following article by Professor Beach of Wisconsin is reprinted because of its practical value:

Geographical Distribution.

Hog cholera was probably introduced into this country from England in 1833. Now the disease is prevalent in every state in the Union to a greater or less extent. The worst outbreaks occur in the corn belt for the simple reason that more swine are grown there.

Cause.

No germ has ever been found which can be considered the sole cause of hog cholera. If a germ is the actual cause, it is so small that it will pass through a porcelain filter which will not permit the passage of the smallest organism known to scientists. Therefore the causative agent is referred to as a "filterable virus."

How Spread.

The infection may be transferred from place to place in a number of different ways, among the more common are the following: 1. Dogs and birds. 2. Running water. 3. Shipping crates, wagons and stock cars, or in any way by which particles of dust or filth can be carried from place to place.

Symptoms.

Unfortunately the symptoms of hog cholera are not constant, but vary with the individual and in different outbreaks. The disease may take an acute or chronic form, the difference being largely one of duration. At times the first animals affected die very rapidly, some of them even before they develop noticeable symptoms. Usually, however, it will be observed that the pigs

1. Do not come up to the trough at feeding time and refuse to eat or eat very little.

2. Huddle together and attempt to hide in the straw.

3. Resent being aroused and when made to walk appear to be stiff and sore.

4. Have a characteristic hacking cough.

5. Have a watery discharge from the eyes, which may dry up and gum the lids together.

6. Become constipated for the first few days. This is followed by a persistent diarrhoea.

7. Develop a fever which is shown by a rise in the temperature from 104 to 109 degrees Fahrenheit. (The normal temperature varies between 100 to 103½ degrees Fahrenheit.)

Post-Mortem Findings.

The characteristic markings of an affected carcass are important guides in determining whether or not death was due to hog cholera. Among the principal changes may be mentioned the following:

1. The skin along the belly and flank assumes a red color.

2. The numerous lymph glands of the body, especially those of the throat and along the intestinal tract, become congested.

3. Red patches appear in the lungs and other signs of pneumonia are present.

4. The kidneys show small, red spots on their outer surfaces.

5. The marrow of the bones changes to a black color in advanced cases.

Preventive Measures.

Good husbandry consists in keeping

the herd free from disease. The following directions are given as an aid to this end, and should be carefully observed in neighborhoods where cholera prevails:

1. Avoid going to your neighbor's hog pen where cholera is thought to exist.

2. Keep the dogs and other pet animals shut up.

3. Quarantine newly purchased or borrowed hogs for four to six weeks. Especial reference is here made to show animals returned from fairs and stock exhibits.

4. Disinfect the pens and troughs daily (5 per cent carbolic acid solution, 5 per cent solution of commercial formalin or 3 per cent creolin solution in water are effective disinfectants).

5. Keep the hogs hungry so that their bowels will be active.

6. Do not feed too much new corn; a slop diet is best.

7. Have all hogs vaccinated with serum to prevent the disease absolutely.

Treatment by Vaccination.

1. The serum alone method or the injection of hog cholera serum into the hog's tissues. This treatment will render swine immune for a few weeks to three months. It should be used: (a) In herds where the disease has already made its appearance. (b) In herds where it is desired to hold the hogs only a short time in order to fit them for market.

2. The simultaneous method or the injection of disease production blood (virus) and serum at the same time. There is considerable danger of loss from this treatment, but if the animals survive they will be immune for life. The losses following this method have been so great in Wisconsin that it has been largely discontinued.

3. The combination method or the injection of serum alone followed in seven to fourteen days by the injection of serum and virus. This method is recommended as the safest and most satisfactory where a permanent immunity is desired. It can be employed in infected herds as well as in cholera-free herds.

Where and How to Vaccinate.

The best site to inject the serum is the arm pit or the loose skin between the front leg and the body. Injection into the ham is objectionable, inasmuch as deep abscesses may form and render the ham unfit for food. Large hogs are snubbed up to a post and vaccinated behind the ear. The temperature of all animals should be taken before treatment and virus given to none with a temperature higher than 104 degrees Fahrenheit. The site of injection should be thoroughly scrubbed with soap and water to which some antiseptic has been added, then sponged off with carbolic acid solution or some other good disinfectant. The serum should be injected with a previously sterilized 20 or 30 c. c. hypodermic syringe; the virulent blood with a separate syringe, care being taken not to inject virus at exactly the same point as the serum in order to avoid a mechanical mixture.

Care of the Hogs Before and After the Vaccination.

Keep the animals for three or four days before they are to be vaccinated in clean, dry quarters and reduce the feed one-third. Plenty of fresh, clean water should be provided. After vaccination the hogs should be fed sparingly with a slop or soft feed, and kept away from mud holes and wallows. Sanitary quarters are essential

to a successful termination, especially if virus has been employed.

Precaution.

Hogs that have been kept in damp, filthy quarters or those suffering from some other disease should not be given the serum treatment. If a hog is unthrifty or is infected with chronic cholera he should not be treated for the results will be unsatisfactory. It is often difficult to determine whether infection is present or not, unless a very careful examination is made by an experienced veterinarian.

ANNUAL MEETING OF AMERICAN YORKSHIRE CLUB.

The annual meeting of the American Yorkshire Club was held at a dinner at the Stock Yards Inn the evening of December 4, 1913, the members present taking great interest in the reports of the various officers. Among other things the Secretary reported an increase of 25 per cent in registrations over the business of 1912, an increase of sixteen new members and a demand for Yorkshire hogs that can

not be met by the present number of Yorkshire breeders. The work in the Secretary's office was more than doubled over the work in 1912, sending out 40 per cent more pieces of mail matter, 20 per cent more personal letters and 100 per cent increase in booklets and circulars.

The following officers were elected: Professor W. B. Richards, Fargo, N. D., Director for a five year term; W. H. Fisher, Columbus, O., President; T. C. Canfield, Lake Park, Minn., Vice-President; H. G. Krum, White Bear Lake, Secretary and Treasurer.

At the Board of Directors' meeting it was decided to offer special premiums for young herd exhibited by a member of the Yorkshire Club at the New York, Virginia, Ohio, Illinois, Iowa, Minnesota, North Dakota and Colorado state fairs. It was also decided to offer special premiums again at the International in 1914.

The Board of Directors decided to take up the proposition of a certain publisher in regard to getting out a small breed paper. They also laid plans for bringing out an extensive showing at the World's Fair in 1915.

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MILLS, SACRAMENTO COUNTY, CALIFORNIA

VIEW HERDS AT PANAMA-PACIFIC INTERNATIONAL EXPOSITION.

The maintenance of view herds of selected and typical purebred animals at the Panama-Pacific International Exposition during its entire period from February 20th to December 4th, is the most important feature that has ever been planned for any great live stock exposition. Every human being is interested in some form of animal life, but every great exposition heretofore has been obliged to confine its live stock exhibition to a very limited time late in the season, and has thus deprived the great majority of visitors from seeing it.

The Panama-Pacific International Exposition is the first of its kind to be held in the Pacific Coast area. It is the first to be co-existent with the event which it celebrates, and the first to maintain a continuous live stock show throughout its entire period.

From this continuous exhibit the farmer perhaps will derive the greatest benefit. He will be able to see and appreciate all of the exhibits in other departments, but the exhibit of live stock will have a special appeal to him because it is not only a matter of general human interest, but it is the thing from which he gets his daily bread and butter. Typical herds of animals of all the different recognized dairy breeds, varying in numbers according to circumstances, but uniform for each class, will be an object lesson the like of which has been shown in no other place in the world.

The young farmer just starting in the business of breeding purebred cattle, hogs or horses, and undetermined as to what breed to select will find all the information he needs spread before him in the living animals which make up the view herds. The experienced breeder will have an opportunity to compare the results attained by other breeders and learn the reason of his own failings and shortcomings. The farmer who has not given attention to breeding will find inspiration in the type and quality of the animals on display, while their selection by experts as typical animals will help him to study the points of resemblance and of difference so that he may select the type best suited to the conditions which surround him. The city man who is interested in cutting down the high cost of living will be able to note the progress which has been made in the development of meat and milk producing animals and will gain much of information as to which kind produces the choicest of viands, and also of the cost of its production. The breeders who have animals on exhibition and those who are interested in the same breeds will have a long period for taking orders for future delivery, which they could not have if the live stock exhibition were restricted to a shorter period as has been the case heretofore.

Each breed exhibited will be superintended by its breed record association, and orders for animals will be handled by the Secretary of the association and distributed among the breeders according to the age, quality and price prescribed by the purchaser.

The recent announcement of the sale of a Shorthorn bull in the Argentine for \$35,200 in gold at a public auction is a slight indication of the interest in purebred animals, and the demand which now exists, and which is rapidly growing in Latin American countries.

There is only one place on earth where the American hog can be obtained, and that is in the United States of America. Foreign nations have been requested through their proper representatives to urge their citizens who visit the Exposition to come prepared to buy, and it is known that great interest is being taken in several classes of American live stock by foreigners, this being especially

true of the milk producing breeds of cattle and of all the different breeds of swine.

Every farmer is interested in the horse, not only for his beauty, general usefulness and intelligence, but because he is the one important motive power of the farm. By the intelligent use of his strength and sagacity the farmer creates the new wealth which each year grows out of the ground and is added to the total of human achievements. This wealth did not before exist, and the horse is more intimately associated with the farmer in its production than any other animal. Most people and all farmers like good horses, and the view herds of each different breed will offer an ample opportunity for the study of animals which are of the purest and finest types, and will be an object lesson from which the farmer can gain the information necessary in deciding the type of horses he needs in his work and which he will select as the basis of his breeding operations with which to supply his customers.

As the coast and mountain region of the United States is largely an undeveloped country as far as purebred stock is concerned, and as the farmers of this region are anxious to secure good stock, their demands, together with those of other countries bordering on the Pacific, will afford a market for exhibited animals which will insure satisfactory sales, not only from the view herds, but from the herds from which they are assembled.

A few animals maintained as a view herd by the record association which controls them will result in good to all breeders of each particular type, and it is believed that the whole breeding fraternity would appreciate this feature of the live stock exhibit more fully and will favor it more highly than any contest for premiums which could have been arranged, no difference what the prize money may have been.

AN IMMUNIZED HERD.

We believe the first swine breeder in California to decide to immunize his entire breeding herd against hog cholera is C. B. Cunningham, the well known breeder of registered O. I. C.'s at Mills. Mr. Cunningham has arranged with a competent veterinarian to treat his entire herd by the simultaneous method of treatment, and hereafter will sell only immunized breeding stock. This will add considerably to the value of breeding stock going out of the Cunningham herd, as it does away with practically any chance of the loss of any of the valuable breeding animals through the ever-present menace of hog cholera.

The Live Stock and Dairy Journal—Knowing that you are always interested in reports of sales of purebred stock in this State, we desire to report the following sales:

One registered Berkshire Boar to Yolo Orchard Co. of Yolo, Cal., and one registered Berkshire boar and three registered Berkshire gilts to W. W. Powers of College City, Cal. The boar which we sold to Yolo Orchard Co. is a litter mate to our herd boar, Silver Tips Duke, Jr., and was sired by the well known Eastern boar, Silver Tips Duke, his dam being a splendid daughter of the sensational Eastern boar, Robhood. Mr. Powers' boar was sired by our herd boar, Silver Tips Duke, Jr., and the three gilts by Third Masterpiece which we imported from Kansas, he being a son of the celebrated boar, Second Masterpiece, and tracing five times to Black Robhood. There seems to be a growing demand for purebred stock in this State, as we have been unable to fill a great many orders for Berkshire hogs and Holstein-Friesian cattle. CLAUSEN & PETERSON, Yolo County, Cal.

BERKSHIRES



Oak Grove Berkshires are now better than ever. Our prices are reasonable—quality considered. You may buy cheaper Berkshires, but you cannot buy good ones for less than we sell them. Write for our illustrated catalogue.

OAK GROVE DAIRY FARM

Woodland, California

Reference: First National Bank of Woodland.

SUNNY SIDE STOCK FARM
BERKSHIRES

My herd contains more Champions, more Descendants of Champions and more Parents of Champions than any other herd on the Pacific Coast.

G. A. MURPHY
PERKINS, SACRAMENTO COUNTY, CAL.

Berkshires

At California State Fair, 1913 with 12 entries my herd won 12 prizes, including Champion sow open class, and Champion sow bred by exhibitor.

Young stock for sale.

H. L. MURPHY

PERKINS, Sacramento Co. CAL.

HILLMONT FARM

High-Class Registered

BERKSHIRE HOGS

Write for Information or Come and See.

CHAS. GOODMAN, Williams, Cal.

PURE GOLD STOCK FARM

Breeders of BERKSHIRE HOGS
HOLSTEIN-FRIESIAN CATTLE

Offers for sale a few Choice Boars of breeding age, and a number of Boar Pigs containing the blood of Masterpiece and Robhood. Prices, \$25 to \$75. Also one choice Yearling Bull of good breeding.

MARKOFER & LATTI, Elk Grove, Cal.

S. B. WRIGHT

SANTA ROSA, CAL.

BERKSHIRE HOGS, DORSET SHEEP, TROTTER HORSES

Breeder of Sonoma Girl, 2:05½, Charley Balden, 2:08½, etc.

Farm, Two Miles West of Santa Rosa, on the Electric Railroad. Fares, 5c.

Berkshires—Guernseys

OUR BERKSHIRES are the finest in the State. At the last State Fair we entered in fourteen classes and won ten firsts.

FIVE HERD BOARS IN THE HERD. Stock of all ages for sale.

We offer for sale Bull Calves of A. R. breeding on both sides. Some of the younger ones are by DON ADONIS OF LINDA VISTA, whose dam, two grand-dams and two great-grand-dams have an average record of 714 pounds butter-fat in one year.

GRAPE WILD FARM

A. B. HUMPHREY, Owner.

MAYHEWS, CAL.

Farm Located Eight Miles From Sacramento on Folsom Road.

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EL DORADO COCOANUT OIL CAKE MEAL

For Chickens, Milk Cows, Hogs and Young Pigs

Cheapest food in the market today. If your dealer doesn't carry it, address

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149 California Street

San Francisco, Cal.

The Pacific Live Stock International Exposition

In March, 1912, a show of fat stock and breeding cattle of the beef breeds was held at the Union Stock Yards, North Portland, under the direction of D. O. Lively of the Stock Yards Company. The success of this initial show was such as to prompt the promotion of a similar show for dairy stock in November of the same year under the direction of O. M. Plummer of the Stock Yards Company.

The third show held at North Portland was a combined fat stock and dairy show, a lineal descendant of the two former exhibitions and the most decided success of all.

Any question of the possibility of successfully combining fat stock and dairy shows was entirely dispelled by the spirit of peace and harmony that existed among the participants in the show.

The show was ably managed by O. M. Plummer, Secretary and Treasurer of the Union Stock Yards Company, who, by his thoughtful anticipation of the wants of exhibitors, his ready response to every expression of need, and his unceasingly earnest and tactful effort to see that every interest was justly treated, proved himself a most popular and successful manager. Mr. Plummer was most ably assisted by the veteran breeder and showman of the famous Hazelwood herd, J. L. Smith.

The feature of the opening day of the show was a student's stock judging contest, participated in by teams from Utah, Idaho, Washington* and Oregon Agricultural Colleges. The following classes were judged: Jersey cows, Holstein bulls, fat steers, Shorthorn heifers, Poland China sows, Hampshire ewes. The Idaho team won by a very small margin, Oregon, Washington and Utah following in the order named. The highest score was made by a member of the Washington team, the second by an Oregon man. The contest was managed by N. C. Maris of Portland, J. L. Smith of Spokane and Professor Gordon H. True of the University of California. Mr. Smith and Professor True placed the classes and marked the contestants on placing and reasons.

In the fat classes Shorthorn steers exhibited by the Idaho Agricultural College won in the 2-year and yearling divisions, a Hereford winning in the calf classes. The yearling Shorthorn was made champion. Frank Brown, Carleton, Ore., and John Tomson of Dover, Kans., both Shorthorn breeders, the latter being the breeder of the champion steer, assisted Mr. Adams, a Denver butcher, in placing the awards.

The breeding classes were well filled and included some of the outstanding individuals in their respective breeds. The Shorthorn breed was well represented by the herds of Frank Brown, W. A. Dunn and Minor, Herefords by Cook of Montana and Chandler & Sons of Oregon. The Cook herd had been strengthened on its recent trip East by the purchase of the renowned Fairfax 16th, grand champion at the 1912 International. Next to this great show bull and sire in the interest of Hereford men present was the University of California junior calf, Hopeful Prince, the junior champion of the show, and a not unworthy aspirant for grand championship honors.

The Jersey, Guernsey, Holstein and Ayrshire breeds were well represented. The Stump herd of Jerseys included the grand champion heifer of the last National Dairy Show, and proved a constant center of attraction. A more perfect specimen of the Island type of Jersey is seldom seen, and one can readily believe her worthy of the Chicago award as best dairy cow of any age or breed in the show.

Among the Ayrshires the world renowned show bull, Buchan Peter Pan,

of the Willowmoor herd of J. W. Clise, was the outstanding individual. This herd showed a high standard of show yard type throughout, winning the lion's share of first and championships. Other exhibitors were Domes of Oregon and McDonald of Arizona.

There were two Oregon herds of Guernseys to meet the Arizona herd of Frank Reed Sanders that, headed by Pilot of the Glen, had been shown extensively in the East this fall. The University of California exhibited two young bulls from the herd recently purchased from J. H. Mackenzie, both of which won second in their classes.

Holsteins were probably the most numerous as well as the most popular of the dairy breeds, but the best show yard types were less in evidence among the representatives of the black-and-whites than among the representatives of the other dairy breeds. The four calves exhibited by the University of California probably attracted the most attention and favorable comment. One of the heifers shown by the University was made junior champion of the show.

The show of sheep was not large, but of uniformly high quality. Particularly strong was the show of Cotswolds and Lincolns, it being generally thought that the upper coast produces the very best of these breeds. F. A. Koser of Rickreall, and Riddell & Sons were the chief exhibitors, getting the long end of the winnings in Cotswold classes and the Riddells in the Lincoln. The Riddells also exhibited Angora goats of a quality seldom if ever excelled in an American show ring.

Hampshires, Oxfords, Shropshires and Southdowns were all represented in the middle wool classes. The Shropshire showing, though not large, was strong. In Hampshires and Southdowns, the University of California won all prizes for which they competed, including the championships.

The breeding classes of hogs revealed the fact that the breeders in the upcoast states are not behind their brothers in other parts of the country in the excellence of their Poland Chinas and Berkshires. Creditable representatives of the Chester White and Duroc breeds were on hand.

The spirit of good will and enthusiasm that pervaded the show reached its climax Friday night at a banquet given to everybody interested in the show by the Union Stock Yards Company. Manager O. M. Plummer presided as toastmaster, and in his happy way manipulated the after-dinner menu to the enjoyment of all present. Confidence in the future of the Pacific International was freely expressed by the various speakers from Oregon, Washington and Idaho, and the hope expressed that at no far off date this show may be provided an adequate setting in a permanent building suitable to its needs.

HOG CHOLERA.

The Live Stock and Dairy Journal—How long will the cholera germs remain in the ground and pens where there has been a bad case of hog cholera? What is the best way to make the pens and yards safe to put hogs in again?—J. S.

It is not safe to put well hogs in pens which have contained cholera hogs for at least three months. Thoroughly clean the pens and disinfect with a strong solution of some good dip or cresol compound 1-20. Sprinkle lime about the premises. After thorough disinfection it may be well to whitewash the pens. Ground in the yards should be thoroughly disinfected, and if possible it is better to plow the yards up, put in some forage crop and leave the hogs out of these yards for several months.

POLAND CHINAS

POLAND CHINA SWINE

I have for sale pigs of both sexes sired by my boar, Great Prospect (57949) out of sows sired by A. Wonder. For prices write or call.

BROWNING STOCK FARM, WOODLAND, CALIFORNIA.

W. H. BROWNING, Prop.

Knob Hill Stock Farm Glenview Ranch

REGISTERED POLAND CHINA SWINE

I offer young stock of both sexes out of prize winning stock. Call and see my herd or write for prices.

A. M. HENRY, FARMINGTON, CAL.

LARGE TYPE, REGISTERED
POLAND CHINAS

First Premium Boar at Riverside County Fair for sale at reasonable price. Can't use him longer.

CHAS. R. HANNA, RIVERSIDE, CAL.

REGISTERED, PUREBRED

POLAND-CHINA SWINE



Herd headed by Designer (160363), champion boar at Oregon State Fair, 1911. Seven champion crosses close up in pedigree. Best herd hog I have seen in West. I have sows as well bred as Designer, with six and seven champion crosses close up. All farrow large litters. I have not had hog cholera in my herd for thirty years. A lot of fall pigs to sell at \$20 to \$30. (Registry free to purchaser.)

S. F. WILLIAMS

PHONE 818. R. 4. CANA, CAL.

REGISTERED

POLAND CHINA SWINE

PRIZE WINNERS

Finest Stock in the State from \$30 up

I have for sale a few very fine Young Boars sired by Gold Coin, Master Banker and Wonderful Victor. There is no better blood in the world.

M. BASSETT, Breeder

HANFORD, CAL.

EVERY FARMER

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YOUNG STOCK FOR SALE

Address Animal Husbandry Dept., California Polytechnic School, San Louis Obispo, Cal

THE HORSE

ALFALFA HAY FOR HORSES.

The Utah Experiment Station has been doing considerable work to prove the value of alfalfa as a feed for horses and makes the following statement regarding it:

"In comparing alfalfa and timothy as roughages for horses, the results of six tests under varying conditions of work show that it is not as difficult to maintain weights of horses when fed alfalfa as when fed timothy. The cost of maintenance was greater in every case, except one, on timothy than on alfalfa. The appearance of the horses in every comparison of alfalfa and timothy was in favor of the alfalfa fed horses."

The Illinois Experiment Station has made this statement in reference to alfalfa:

"When alfalfa hay is fed as the roughage part of a ration for farm horses at hard work, less grain is necessary to prevent them from losing weight than when timothy hay is fed. In this test there was a saving of about 22 per cent of grain."

SEVENTEENTH ANNUAL CONVENTION.

Seventeen years ago the American National Live Stock Association held its first convention in Denver. That meeting was, of course, exceedingly interesting, but the way of doing things has changed since then. Instead of many long-drawn-out, dry papers, as was the style at that time, we now find short, pointed talks and general debate on the important subjects before the meeting. Everybody who has an idea is given a chance to present it, and the benefit from these meetings to stock growers and others who handle live stock, directly or indirectly, is considerable.

All classes of live stock are now so valuable that the best methods are necessary if a profit is to be secured, and it is at these conventions that the best means are considered.

The sessions of this seventeenth convention will be largely devoted to the questions of railway transportation and market facilities. Immense losses have been sustained by stock growers through delays to their shipments in transit, waiting to be unloaded at terminals and at markets where improper facilities have been furnished.

The question of the readjustment of railway live stock rates, possibly including moderate increases in some cases in event of good service being furnished, will be given much consideration. It is of the greatest importance for all classes of business that the railways prosper. As the stock growers are always in the lead of important questions, it is expected that the results of this work at the convention, which will include a conference with the leading traffic men of the country, will result in large benefit to every side of the industry.

Detailed information will be presented by Government experts in regard to imports of meats and live stock from foreign countries, and plans that are being made to invade our markets in the future. It is of the greatest importance that live stock growers be informed as to the probable effects free trade will have on their industry, and an entire session will be devoted to this question.

Denver is anxious to have you come. During the time of the convention the Annual Stock Show and Horse Show will be in session, and this wonderful exhibition will be free to all members of this association.

The convention will be held at the Broadway Theater on January 20th, 21st and 22d. Morning sessions only so as to enable the visitors to attend the stock show in the afternoon, and also to give the Executive Committee an opportunity to consider the many things that will be brought before it.

During convention week the headquarters of the convention and of this committee will be at the Brown Palace Hotel. T. W. Tomlinson, Secretary of the American National Live Stock Association, 222 Railway Exchange Building, Denver, will be glad to advise you of anything you may want to know regarding all matters to be submitted to the convention and also regarding railway fare from your home town to the convention.

Our business is to get you to come and to take good care of you while you are here. Respectfully,

F. M. TAYLOR,

F. C. GOUDY,

A. E. DERICQUES,

Committee in Charge of the Convention.

Denver, Col., December 8, 1913.

BETTER JACKS AND JENNETS THIS YEAR.

Two years ago, when H. B. Thornberry introduced to California a class of registered jacks which sold from \$1500 to \$4500 per head, it was a question as to whether or not there was an actual demand for that class of stock in the State. That doubt has long since been dispelled, and this year the general appreciation of quality in jacks and jennets seems to have undergone a steady improvement. The latest sale by Mr. Thornberry is that of a magnificent jack sold to Dill Bros. of San Joaquin County for \$5000, which we believe is the record price on the Pacific Coast. Dill Bros. also secured twenty head of the best type of jennets, which, in addition to their already good sized herd, gives them a large breeding herd of the highest quality.

McLAUGHLIN BRINGS OUT GREAT LOT OF TWO-YEAR-OLD PERCHERONS.

Without question the greatest lot of registered 2-year-old Percheron stallions ever brought into California in one lot was recently brought back by McLaughlin Percheron Company, following Mr. Wm. McLaughlin's visit to the International.

Most conspicuous of the lot is the sensational Londrecitos, reserve champion at the big show. Lindrecitos is a black, well muscled, clean, sound feet and joints, good action and carries the great weight of 2240 pounds as a 2-year-old. This is probably the best colt ever brought into California, and he is being sought for by several of the best studs in the State.

Lignel, a massive gray, was in the judges' leet at the International, and made a great impression on account of his conformation and size, weighing over a ton. This colt is an exceptionally good Percheron type and is one of the most promising youngsters yet seen on the coast.

Koussin, a black of great width and muscular development, was a shoth, leet stallion at the International, and shows draft power in every line of his makeup.

Lolret, a darke gray, combines draft power with high action, and is a clean, heavily muscled individual of striking conformation.

A somewhat different type is found in Lohengrin, a low set stallion of good weight, excellent bone and sound feet, and a very good mover.

There is only one Belgian left in the McLaughlin stable, the chestnut 2-year-old, Chanal De La Lys, a Gold Medal winner at the International. This colt shows quality throughout, and carries great weight, tipping the scales at 1950 pounds.

THE DRAFT WEANLING

There are many factors involved in the production of the high-class drafter. The blood lines must be right and so must the feed and care. Neither factor can turn the trick alone. It is not always possible to get just the blood, but proper food and shelter are pretty much within the control of the breeder even though his operations are on a very modest scale.

Suckling foals, born in the spring and early summer, should have been weaned before bad weather set in. When brood mares and their foals, in any number, are herded together after it commences to get wintry, there almost always seems to be more colts hurt from being kicked or crowded than if separated sooner. Some breeders prefer to wean their foals gradually, but when there are more than two or three to be handled it is expedient to separate foal and dam once and for all. Keep the foals in a roomy box for a few days and get the mares clear away where they can not see or hear their foals. Weaning is not hard on the youngsters when they have had a chance to eat hay and grain before being separated from their dams.

The Feed.

Feed for the weanling, both grain and roughage, must be of good quality and fed liberally. Where grinding can be done on the farm it is good policy to grind or crush the grain fed. In the case of older horses this seldom pays. Experience has shown that the mature work animal may be safely and most economically fed a grain ration composed largely of corn when his



For Sale

ELEVEN HEAD OF

Registered Percherons

One 3-year Stallion, weighing 1900 pounds; two 2-year-old Stallions; two yearling Stallions and six Mares at a reasonable price.

F. F. MARTIN

338 ELM STREET,

RENO, NEV.

HORSES

And

MULES

SHETLAND PONIES

I both buy and sell mules and horses. Have on hand at all times mules to hire in carload lots. Also breed Shetland Ponies, and have several weanling colts and a few well broke ponies for sale.

J. H. MENDENHALL, Williams, Calif.

Kentucky Jack and Percheron Farms



Big Boned Kentucky Mammoth Jacks, Saddle Stallions, Mares, Colts and Fillies. A number of Jacks and Saddle Colts that can be shipped by express at a very low rate. Write for catalog or visit our farms.

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LEXINGTON, KY.

America's Leading Horse Importers PERCHERONS



ONE OF THE BEST AND HIGHEST PRICED TWO-YEAR-OLDS IMPORTED FROM FRANCE IN 1913; WEIGHT 2010 POUNDS.

Our recent importation includes winners of two championship ribbons, two gold medals and two second prize ribbons at the Great International Live Stock Exposition, Chicago, December, 1913.

We won every first prize at the great California State Fair, 1913.

When you want the BEST let us hear from you.

Western Stables, 47th and San Pablo Ave., Oakland, Calif.

McLAUGHLIN PERCHERON COMPANY

hay ration is all or partially a legume hay, as clover, alfalfa or mixed clover and timothy hay. Oats, preferably crushed or ground, is the best single grain to feed a colt. Here at the station our weanlings have developed well when the grain ration was two-thirds by weight of ground oats and one-third ground corn, the hay being alfalfa. When the roughage is anything but a good quality of legume hay, it is best to make the grain ration one-fourth to one-fifth bran. It is not possible to state in pounds just the amount of feed that will be required, but good sound draft weanlings will pay handsomely if fed all the grain that they will clean up three times per day. Good quality of alfalfa and clover are the best roughages. They are growers of bone and muscle. The best boned colts that I ever looked after were fed alfalfa hay. Other draft horse men in the corn belt who grow alfalfa have had similar results. Alfalfa and even clover may easily be fed too freely to brood mares and stallions for their own good. Weanlings will not eat too much if fed a grain ration along with it. Bright corn fodder or sorghum hay makes good picking in the field or yard, but should not be the sole roughage fed. Sorghum, planted thickly, makes a splendid winter roughage and should be grown on farms wintering a large number of horses.

Shelter for Colts.

Weanlings ought not to be exposed to the elements at night or on the stormiest days. Access to a roomy, closed shed or run in fours in a roomy box will be found right. The run of a good bluegrass field will afford exercise and some feed. Plenty of exercise in the open with the chance to grow a good coat is as essential as feed in making a good frame. Weanlings handled in this manner may look a bit shaggy, but they will do much better than the pampered kind. It is hard to feed too much if the feeding is done regularly and the opportunity for exercise is right. Puffy joints and cocked ankles, unless the tendency is strongly inherited, come from heavy feed and not enough play in the open. Weanlings do better when by themselves than when running and feeding with older horses. Generally speaking the stalk fields should be taken care of by the older horse and the weanling kept out for his first winter.

Grooming, when the bedding is plentiful, is not much in need under this system. The feet should be regularly looked after at least once a month. A good hoof rasp is the proper tool with which to level up the foot. Don't let the toes get too long

and keep the hoof wall slightly beveled on the outside to prevent splitting. Much can be done to remedy faulty conformation of legs by skillful and regular attention to the growing colt's feet. If the stable is clean and free from mites at the setting in of winter, there is likely to be no trouble from lice. Free the colts from worms at the beginning of winter rather than wait for the foals to get out of shape generally.

During the first winter, if it has not been done before, is a good time to teach the youngster to lead. A snug-fitting halter and a cord loop around his back ribs run between the forelegs and through the haltering, seldom fails to keep him coming the right way. Young colts are easily strained. This makes gentleness and patience more imperative than with older horses. Again, close association between caretaker and foal is always mutually profitable.

J. L. EDMONDS.

University of Illinois.

RAILROAD RATES FOR THE PANAMA-PACIFIC EXPOSITION.

The transcontinental freight bureau has announced special rates on all live stock to be exhibited at the Panama-Pacific International Exposition.

These rates provided that all exhibit animals on which freight rates have been paid to San Francisco shall be returned free of charge, provided they are returned over the same route and within ninety days after the close of the Exposition. The rates also provide that on any animals which shall have been sold at the Exposition a rebate of 25 per cent of the freight charges will be made by lines over which the shipment was carried. This is the most liberal concession that has ever been made by the railroads of this country to any great Exposition, and will afford exhibitors of live stock an opportunity to combine their shipments at some central point like the Capital of the State or its chief commercial city and have them carried through to their destination on the Exposition grounds in San Francisco under the direct charge of the transportation department of the Panama-Pacific International Exposition. If such concentrated shipments amount to ten cars or more special train schedules will be arranged so that rapid transit is assured, and animals will come through in the best possible condition. Ocean liners have also granted special concessions in shipments for the benefit of foreign exhibitors and negotiations now pending, when completed, will afford the exhibitor the greatest opportunity possible in the

cheap, safe and expeditious handling of his live stock.

BELGIAN ASSOCIATION MEETS

The Live Stock and Dairy Journal—The following is a brief report of the twenty-sixth annual meeting of the American Association of Importers and Breeders of Belgian Draft Horses, held at Room 2, Live Stock Record Building, Union Stock Yards, Chicago, Wednesday evening, December 3, 1913, at 7:30 o'clock. Roll call showed a large attendance. President Henry Wolf occupied the chair. Report of Secretary and Treasurer read and approved, showing a balance in the treasury of

\$6754.01. Much matter of general interest to the members was discussed and disposed of.

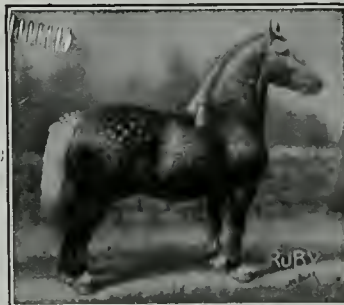
Five hundred dollars appropriated at request of the National Society of Record Associations for the purpose of presenting to the Interstate Commerce Commission certain questions in relation to freight rates on live stock. The election of officers resulted as follows: George R. Crouch, President; Eli Sprunger, Vice-President; J. D. Conner, Jr., Secretary and Treasurer. Members of Board of Directors for three years: A. Latimer Wilson, Henry Wolf. Members of Executive Committee: J. M. Frisinger, A. B. Holbert. J. D. CONNER, JR.

A. C. RUBY, Portland, Ore.

C. W. BOWERS, Davis, Cal.

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We sell more imported horses than all other firms on the coast because we are direct importers and give a four-year guarantee which is good right at home. We have on hand at all times the largest and best lot of heavy draft stallions and mares, both American bred and imported, to be found any place in the West. If you are in the market for a high-class stallion or mare, don't fail to give us a call, as we can sell you more genuine horse for the money than any other importer in the business.

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Davis, California

We have imported more Horses than any other firm in the United States during the last year.

References: American National Bank, Pendleton, Ore.; Merchants' National Bank, Portland, Ore.; First State Savings Bank, Marcellus, Mich.; Bank of Yolo, Davis, Cal.; G. W. Jones' Bank, Marcellus, Mich.



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Correspondence and inspection of stock invited.

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PHONE 131.

A. W. WARD, Superintendent

SHEEP

CALIFORNIA WOOL GROWERS' ASSOCIATION WILL MEET.

The sixth annual meeting of the California Sheep and Wool Growers' Association will be held at the Palace Hotel, San Francisco, on Friday, January 9, 1914. Meeting called at 10 a. m.

Some of the important questions for discussion, in which you are requested to come prepared to take a part, are: "Free meat and its effect on prices of home production."

"Would stock yards in or near San Francisco be of benefit to our live stock market?"

"How can we raise a better percentage of lambs?"

"When mutton or lamb is the most healthful and most nutritious meat food, why is there a difference of 2 or 3 cents per pound between mutton and beef? Also lamb and veal? And how can this difference be overcome?"

This subject will be treated in a paper by Dr. S. W. McClure, Secretary of the National Wool Growers' Association. This is the most important question before us today. Don't fail to take part in its discussion.

The report of our delegate to the National Wool Growers' Association in Cheyenne last January will assist us in keeping in touch with the affairs of our national organization.

Come and help make this meeting a success. Help us to plan for entertaining the National Wool Growers' Association at its fifty-first annual meeting to be held in San Francisco in 1915. Help advertise the good qualities of mutton by united effort, thereby increase the demand, likewise the price. It means money to you. See what complete organization has done for other lines of business. It will do the same for us if we but support it as we should. C. A. KIMBLE, President.

Fred A. Ellenwood, Secretary.

ANNUAL MEETING AMERICAN OXFORD DOWN RECORD ASSOCIATION.

The annual meeting of the American Oxford Down Record Association was held in Record Building, Chicago, Thursday evening, December 4, 1913.

President Stone called the meeting to order.

The minutes of the 1912 meeting were read and approved. The chair appointed W. George Cavan, J. C. Williamson and F. M. Davisson a committee to examine the Treasurer's report, which showed a balance of \$482.63 on hand.

The Secretary's report did not seem to verify the prediction that the removal of the duty on wool would drive sheep breeders out of business, as more applications for membership have been received and accepted by this association and more pedigrees have been registered in 1913 than in 1912, and the Secretary has never before, in the same length of time, received as many inquiries from breeders and dealers asking where they could get a few more good Oxford rams to fill orders, as he has received during the past two months. Breeders who have ram lambs to hold over are advised to feed them well and have them in good condition for next year's trade, as the demand for them is sure to be good.

A communication from the National Society of Record Associations was read, requesting the co-operation of this association in carrying the present unjust freight rates on live stock before the Interstate Commerce Commission.

Motion by George McKerraw that \$25, or any part that may be needed, be appropriated for this purpose, was seconded by C. C. Coxen and carried.

A communication from the Oregon Purebred Live Stock Association was read, asking the careful consideration of the following resolution:

Whereas, We believe that in the final analysis the value of the pedigree of any animal depends upon the honesty and integrity of the breeder and furnisher of that pedigree; and

Whereas, We believe that in order to dignify the pedigreed live stock industry and to throw every safeguard around the business possible, that a little more care should be exercised in some instances; and

Whereas, We believe that if a breeder expelled from any Record Association on account of fraudulent practices knew that he would not be admitted in any other Record Association, that such knowledge would tend to make him more careful in his dealings; therefore, he it

Resolved, That it is the sense of the Oregon Purebred Live Stock Association, in congress now assembled, that any breeder who has been expelled from any Record Association for

fraudulent practices, should not be admitted as a member, or allowed to record his animals in any other record association, and we hereby memorialize all record associations to make a ruling in harmony with this resolution; and be it further

Resolved, That our Secretary be instructed to send a copy of this resolution

RAW FURS

(We Pay Express Charges.)

If you want top prices for your furs you must ship to New York. The greatest fur market in the world.

We want all kinds of furs all the time.

Our reputation of square dealing and our connections both in the United States and Europe insure you Top Prices, Liberal Assortment and immediate payment.

A postal will bring you price list, shipping tags, etc., Free.

J. S. Lodewick Co.

110-112 West 26th St.,
New York.

lution and memorial to the Secretaries of recognized record associations of all different breeds of live stock.

On motion this question was referred to the Executive Committee.

The Secretary asked that the list of names of Oxford judges to be recommended by this association be extended. As the few that have been named usually exhibit their own stock some where each year, and it is sometimes hard to find available competent judges, Mr. McKerraw moved that the Oxford Directors, with the Secretary,

Frank A. Mecham

Breeder and Importer of

Shropshire, Rambouillet

—and—

American Merino
Sheep

RED POLLED BULLS FOR SALE

Take electric car at Petaluma or Santa Rosa for Live Oak Station. Address:

FRANK A. MECHAM,

Petaluma, Sonoma Co.,
Phone Rural 166. California.

W. B. SUMNER & CO.

Tanners and Dealers in

Hides, Tallow, Wool, Furs
and Skins

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San Francisco, Cal.

A SURE CURE

FOR ECZEMA (MANGE), HARNESS SORES, CUTS AND ALL SKIN DISEASES OF

Horses, Cattle, Dogs
AND OTHER DOMESTIC ANIMALS.



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OUR GUARANTEE means your MONEY BACK if this Remedy Fails to Do All We Claim.

50c THE BOX

Bovox Antiseptic Soap

IS THE ONLY PERFECT CLEANSER.

For Sores; Exterminates Fleas, Lice, Ticks, Etc.

25c THE CAKE

Bovox Remedies at Druggists or Sent Postpaid.

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331 Black Bldg., LOS ANGELES, CAL.
AGENTS WANTED. Write Us.

RAMBOUILLETS

I OFFER FOR SALE

1400 Yearling Rams

1000 Ewes

Prompt Delivery Correspondence Invited

CHAS. A. KIMBLE

Hanford, California



A FEW MORE

SHROPSHIRE RAMS

Purebred Yearlings

A Number of Young Duroc Boars and Open Glts

ENTERPRISE FARMS

H. P. EAKLE, JR., Prop. (Phone Sub. 3024.) WOODLAND, CAL.

San Ramon Shropshire Flock

PRIZES WON BY FLOCK, 1912:

California State Fair—Six firsts, Champion Ram and Champion Ewe.

Oregon State Fair—Two firsts, Champion Ram and Champion Ewe.

Spokane (Wash.) Interstate Fair—Five firsts, Champion Ewe.

Boise (Idaho) Intermountain Fair—Eleven firsts, Champion Ram and Ewe over all breeds.

PUREBRED AND REGISTERED SHROPSHIRE RAMS FOR SALE. INDIVIDUAL OR CARLOAD LOTS.



First Prize Ewe Lamb
at Omaha.



First Prize Ram Lamb
at Omaha.

BISHOP BROTHERS, SAN RAMON, CALIFORNIA

Mention The Live Stock and Dairy Journal When Writing to Advertisers.

A New Dairy Center in Northern California

(Written for The Live Stock and Dairy Journal by A. R. Kanaga.)

make up a list of names of Oxford judges and that breeders knowing good Oxford judges mention them.

Mr. Kleinheinz said: "Why must we recommend an Oxford man? Why not recommend any other breeder if he is a good judge of sheep?"

Mr. McKerrow said: "This association could recommend Oxford judges who might also be good judges of other breeds, and other record associations could recommend judges of their respective breeds who might also be good Oxford judges."

The dog question was then discussed, and the chair appointed J. C. Williamson of Ohio to confer with all record associations in regard to legislation for the protection of sheep from dogs.

The question of offering special prizes at the 1914 International was discussed. For several years this record association has offered \$250 in special prizes for the Oxford breed here, and were rewarded by receiving \$66 more in the regular classes than was given to breeds that did not get any specials from their record association. This year, on account of the depleted condition of its treasury, this association could not offer any special prizes and the \$66 was taken from the Oxford premiums at the International, but no change was made in the Oxford premiums by any other exposition, state or provincial fair in the United States or Canada on account of the inability of this association to offer special prizes there.

Motion was made that if the International Exposition Association puts the Oxford breed in the advance class we offer \$150 in specials there in 1914; \$100 in breeding classes and \$50 in fat classes; that this association appoint a committee to confer with them on this basis, and that R. J. Stone be appointed. President Stone appointed Mr. Cavan and Mr. Williamson to act with him in this matter.

The election of officers followed: Mr. Stone asked that some other member be elected President, as he had held the office several years, and he thought the honor should be passed around.

Henry Arkell, Arkell, Ont., was elected President; R. J. Stone, Stonington, Ill., Vice-President. Directors for two years—C. C. Croxen, Atalissa, Ia.; J. C. Williamson, Xenia, O. Secretary and Treasurer, W. A. Shafor, Hamilton, O.

Adjourned to meet in Chicago during time of International Live Stock Exposition, December, 1914.

For five years past the Government has not commenced one single new irrigation project, but now that nearly all of the old ones are completed, it is looking about for some new enterprise, and our State of California is to be the scene of the next Government activity.

Up in Siskiyou County is a district known as the Shasta Valley, which extends north and south from Ager to Edgewood, a distance of nearly thirty miles, and is from five to fifteen miles wide, and contains more than 100,000 acres of good land composed of volcanic ash and decayed vegetation, and which will grow almost any crop known to our Western country.

Shasta Valley has been talked over and written up and down lately on account of its having been up before President Wilson and Secretary Lane during the months of October and November. Several large mass meetings have been held in Siskiyou County at which addresses were made by the writer, and were followed up three weeks later by speeches by Congressman John E. Raker and ex-Congressman D. E. McKinley.

Uncle Sam has expressed his desire to co-operate with the people here and get in and make the fur fly, but notwithstanding his promise it takes a lot of work to arouse the land owners, for they have many doubts and fears, some of them even thinking that if the

enterprise goes on that the reclamation service will confiscate their land, and the speeches so far made have been with the object of showing the benefit that will come to the country, that it will in no way work an injury or hardship. Briefly, it will make every one of the land owners rich.

This is a natural dairy spot, and if the project is installed it will make it one of the largest and best dairy fields on the Pacific Coast. The country, even at this time, is well stocked, principally beef cattle, and I saw buyers here from Seattle, Spokane and San Diego offering the highest prices for Shasta Valley cattle. I made inquiry as to the cause of the exceptional demand for cattle from this district and was told it was because of the fine quality of beef made here. The tender meadow grass and alfalfa raised at this altitude, which is 2500 feet above sea level, contains a high percentage of sugar and has great fattening qualities, and the tender feed seems to produce an equally tender beef.

Even though the reclamation service does not take a hand in this section the project will nevertheless be installed by the people, for they will form an irrigation district and the land will be bonded to meet the cost of installing the system. The cost will be somewhere in the neighborhood of four million dollars, and the water to irrigate this vast area will be taken from the Klamath River, one of the four largest rivers on the west coast.

At present there are at least 20,000 acres of land in this valley under irrigation, and a large part of this has been irrigated for a number of years. These watered lands are scattered all over the valley, and are the source of the great present prosperity of Siskiyou County, for it is a country of rich and prosperous people, made rich through the dairy cow and beef animal.

It is to be hoped that the reclamation service will be the agency to install this system, for whatever is then done will be done well, and it will tend to give the confidence that is so richly deserved by these lands.

WESTERN SHEEP AND WOOL CONDITIONS

The following communications to the National Wool Grower are pertinent to the present sheep situation:

The past summer has been the best for feed in the mountains I ever saw, owing to the fact that we had continued rains until August which kept the feed green and growing.

The wool is strong and well grown, with sheep generally in excellent condition for the winter.

We had no fall rain until after the first of November, but have had plenty since, with nice, warm weather. Green grass is plentiful at present time, and prospects good for plenty of winter feed in Northern California.

Of course, Southern California is not quite so well off, as they have had two years' drouth, but they have recently had one-half inch of rain, and if they get another half inch soon they will have good feed for winter.

As to the number of sheep in California as compared with last year, Tehama County, which has about 10 per cent of the whole number of sheep in California, is this year between eleven and twelve thousand sheep short, or about 6½ per cent. One outfit of about 5000 sheep sold out and their land is being subdivided for oranges and olives. Another outfit with 2500 sheep sold out entirely and went into cattle. Another outfit reduced from 10,000 to 5000, so that we are fully 12,000 short of a year ago in this one county. F. A. ELLENWOOD, California.

If farmers throughout the Western States who are raising alfalfa and have no market for it would purchase a few "dogie" lambs and broken mouth ewes in the fall before the sheep go on the winter range, and by spreading a canvass alongside their hay stack when they throw out their hay, thus saving the leaves, which contain the most protein, they could soon fatten their sheep, which would make cheap meat for themselves, and also a good profit, as these sheep can be bought at that time of the year at from \$1.50 to \$3 per head. I know from experience that there is no better meat than a quickly fattened old ewe. We recently persuaded the farmers in this section, who hardly knew what a sheep was, to purchase 100 head to feed in that manner. KIMBALL SHEEP CO. Nevada.

It is my opinion that the growth of wool in the mountains this season was not as good as last, but on the other hand we have had a very heavy rainfall during the past six weeks and the grass was never better at this time of the year, and unless we should have some exceedingly severe winter weather, I think that the wool crop in this vicinity will be better than last season.

I think that there will be about the same number of sheep wintered and the same amount of ewes bred as last season in this county. The number that are bred "Fine" will be considerable less than last year.

J. N. BURGESS,

Oregon.



Artesian Well Flowing 60,000 Gallons Per Hour. Located in Shasta Valley, Siskiyou County, California.

THE BEST LINIMENT

OR PAIN KILLER FOR THE HUMAN BODY

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Caustic Balsam

IT HAS NO EQUAL

For the Human Body

- Perfectly Safe and Reliable Remedy for
- Sore Throat
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- Sprains
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- Diphtheria
- Sore Lungs
- Rheumatism and all Stiff Joints

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

REMOVES THE SORENESS-STRENGTHENS MUSCLES
Cornhill, Tex.—"One bottle Caustic Balsam did my rheumatism more good than \$100.00 paid to doctor's bills."
OTTO A. BEYER.
Price \$1.00 per bottle. Sold by druggists, or sent by express prepaid. Write for Booklet R.
The LAWRENCE-WILLIAMS COMPANY, Cleveland, O.

Mention The Live Stock and Dairy Journal When Writing to Advertisers.

POULTRY

GETTING EGGS IN PLENTY.

Some people imagine that is a difficult thing to do, and so it may be for them because they do not manage right in some way.

It is not all in the feeding, though that is a necessary part of it, but one of the main things to be attended to comes before the chicks are hatched.

In picking out eggs for hatching some people take any that come to their hands if they are a fairly good shape, but such eggs should be accepted only from well known layers of eggs in plenty; that is the finest layers, and in addition each rooster should be from a hen that has had a fine laying record behind her, then if the eggs are of good shape, without blemishes, you may expect to get good laying chicks when they are old enough if you feed and care for them in a reasonable way.

The average of eggs laid per hen throughout the United States is very low, indeed, in fact, below what it costs to feed them. That is, counting all hens on the farms and ranches, so that if the figures given by the Government experts applied to each individual breeder and keeper of hens, there would be a great many going out of business, but happily there are quite a good number of men and women who know how to make the hens pay away beyond their cost of feed. If there were more of such men and women, and if they applied their knowledge and ability to casting out all the drones, keep none but fine layers, and if they were very particular to keep none but the best layers in males and females to breed from, what a difference there would be in finances next year, and in all the years to come, for the men and women engaged in trying to make both ends meet by raising chickens.

Though it may sound strange to some in saying the best layers in males, it is nevertheless a fact that the male has a lot to do with laying, that is, in producing chickens that will be good layers, so he should come from a fine laying mother.

In choosing the method of picking the best layers you can use the trap nest, which is an exact method, though somewhat exacting with a large flock, or you may use the scientific method, which will give correct results if rightly applied.

It is an absolute fact that if eggs are thus selected for hatching from birds that have a well known family trait of being fine layers, the coming chicks will become fine layers also, and there is no surer way of building up a flock of excellent layers and getting plenty of eggs.

With this method there must be consistent and good feeding, and hens must be disposed of before they get too old and have laid the best part of their productiveness. J. E. H.

Poultry Editor The Live Stock and Dairy Journal—Will you please tell me your opinion about open fronts compared to closed coops.—T. E. T., Anaheim, Cal.

There is no question that open fronts are the best to use for health and stamina of poultry. In fact, I would have no other. The distance from front to rear should be sufficient to prevent rains beating on the front row of perches.

Poultry Editor The Live Stock and Dairy Journal—Kindly tell if it is necessary to candle eggs for selling to private customers when you know they

are taken direct from one's own yards.—F. L. Whittier, Cal.

It will be better to candle them if you desire to retain your customers, for sometimes there may be a blood spot in one of them, and they have even been found to be rotten, though new laid, the cause of the first trouble being in the organism of the hen, and the latter may be caused by too slow a descent of the egg in laying—that is, a stoppage enroute.

Poultry Editor The Live Stock and Dairy Journal—Will you please tell me if there is a method of picking out the laying hen without trap nesting, and about how long it takes a person to do it.—M. O. M., Santa Barbara, Cal.

There certainly is, as I am continually proving with my flock. As to length of time required, depends on the man or woman. Some can do it in a few seconds per hen, others may take some minutes to each bird.

Poultry Editor The Live Stock and Dairy Journal—What are the symptoms of catarrh in hens, and how can I easily tell they have it or otherwise.—H. A. S., Santa Monica, Cal.

If you will take up the hen, hold her with the head in front of you, press the nostril on each side, having the thumb nail just over the slit of nostril as you press, then if any mucus comes out then that hen has catarrh for healthy hens should have clean and dry nostrils.

Poultry Editor The Live Stock and Dairy Journal—How old should a rooster be to do good service at the earliest?—M. A. T., National City, Cal.

About a year generally, though some use them at ten months.

Poultry Editor The Live Stock and Dairy Journal—I have some Belgian hares, and the young sometimes die from no apparent cause. I feed them bran, oats, hay and some green stuff. They generally die about four weeks to two months.—F. O. T., Bakersfield, Cal.

Feeding the green stuff tells the story—that is, to the young ones, for if you held a post-mortem examination of the bowels, you would find the lower part was filled, more or less, with gas, so as to cause quite an extension in them at that point, which really means colic, and for which there is no cure, because it is not found out quick enough to remedy, but prevention is the thing to do.

Poultry Editor The Live Stock and Dairy Journal—Would you tell me what is the best feed to give young turkeys to fatten them quickly for market.—Mrs. M. C., Gonzales, Cal.

Your turkeys should be placed in pens for fattening to get best results. Pen them if possible in a clean, open shed which is free from vermin. The ration should be, first of all, one which the birds will relish, and there is a wide range of feeds suited to this purpose. A good ration is composed of equal parts corn meal, barely meal and shorts, which is made into a mash by adding curdled milk. If milk is not available add about one-tenth part of beef scrap in place of the milk and make the mash up with water. When the fowles are first placed in the pens, scatter a little cracked corn, which will tend to give them a keener appetite for the mash. Feed carefully at first, and increase the quantity of mash gradually until they are getting all they will clean up in ten minutes. One of the most important

things in fattening is to have regular feeding hours. Select some hour about the middle of the forenoon and the middle of the afternoon for feeding the mash, and at night feed all the cracked corn and chopped green feed that the fowls will eat. Keep plenty of grit and charcoal before the birds.

APOPLEXY OR HEMORRHAGE OF THE BRAIN.

Poultry Editor The Live Stock and Dairy Journal—Please tell me what to do for my hens. They are apparently healthy, good appetite, combs red and are never droopy or listless. Often in the early morning we find one on the ground seemingly in great pain. The head generally draws back over the body and usually one leg draws back also. This condition usually lasts two or three days. On the second day the bowels become very loose and the droppings are white and very offensive. If they recover they are usually blind.

We feed a bran and middlings mash in the morning and chopped mixed grains at night, with skimmed milk at all times and an occasional feed of fresh meat and green feed. We have never had a bird affected this way during the warm months—always during the first cold weather.—E. A. M., Clovis, Cal.

The hens had apoplexy or hemorrhage of the brain, the wry neck or twisting back of head being a progressing symptom. The blindness was a symptom of entire disarrangement of nervous system. All caused by over-feeding with rich mashes, of which the chopped grains with milk was one. Feed mornings equal parts of wheat, oats and rolled barley in plenty of litter, where they will scratch for every grain. Greens at noon, all they will eat. A small handful of mash to each hen, of half bran, quarter shorts, quarter oat middlings, crumbly dry. No meat of any kind for two weeks, when you may add 5 per cent of that to the daily mash. Once a week for three weeks mix two tablespoonfuls of Epsom salts to each quart of drinking water, and no other water for that day. They may drop in egg production with this treatment, after so continuous rich feeding, but it must be that or allow them to die at intervals.

Incubator Chicks

White, Buff and Brown Leghorn, Black Minorca, White Rock. All high-class stock. Send for Booklet of prices.

H. S. KIRK
P. O. BOX 597, SACRAMENTO, CAL.

PEERLESS POULTRY YARDS

BOX 366, ORLAND, CALIFORNIA.

BREEDER OF HIGH CLASS BUFF ORPINGTONS, WHITE PLYMOUTH ROCKS, AND SILVER WYANDOTTES.

Fine Breeding Stock Ready for Sale. Booking Orders for Hatching Eggs.

E. B. NEILSON, Oroville, California

BREEDER OF

SILVER LACED WYANDOTTES

My stock of Great Winter Layers is the best to be had on the coast. Eggs \$2.00 per setting of 15 eggs, or three settings for \$5.00. No stock for sale.

"THE CALL of the HEN"

OR THE HOGAN SYSTEM OF PICKING OUT THE LAYERS, the New Book lately issued by Walter Hogan and endorsed by the best known breeders and experts on poultry. Subscription one year to The Live Stock and Dairy Journal and this Book for \$2.50.

DR. WHEELER'S SPECIFIC FOR ROUP

FOR ROUP, CATARRH, ETC. To mix in the drinking water; an excellent remedy. Prices, \$1.05 and \$2.10 by mail.

"PREVENTION"

A remedy for WHITE DIARRHOEA and CHOLERA. Prices, 50 cents and \$1 by mail. Send all orders to

J. E. HOLT, R. 4, Box 270, (LATE OF BURLINGAME) LOS ANGELES, CAL.

Mention The Live Stock and Dairy Journal When Writing to Advertisers.

A FEW REASONS WHY FAILURES ARE MADE IN THE POULTRY BUSINESS.

Not having sufficient knowledge in incubation, having a cheap incubator which can not be depended on, not hatching in the best season of the year for good results.

Feeding for egg production when growth should be first attended to. Allowing the cockerels to mingle with the early pullets. Breeding from pullets instead of hens from 18 to 24 months.

Feeding wrong, or at any old time, instead of right materials in correct proportions and at regular times.

Failing to sell at the right time, keeping the old hens too long, keeping them through the second molt instead of selling before. Lack of right advertising, parsimonious in using a few dollars for that purpose, and sometimes not knowing how to reply to a letter to get the trade when it comes in.

A little charcoal in the mash twice or three times a week will often save the health of the layers.

Give shade to the growing chicks, but use good judgment and do not let it be all shade, for the grand sunshine is a life giver.

It is claimed that it is much easier to dress a gosling in warm than in cold weather, as the feathers do not set so tight, and in picking them the flesh is not so apt to be torn.

WOODHAVEN FARM Buff Orpingtons

Bred for Size and Heavy Laying. Vigorous Early Hatched Cockerels and Laying Pullets for Sale.
C. M. SMYTHE,
Box 57, R. R. 3, STOCKTON, CAL.

FOR SALE

FIVE FAWN AND WHITE INDIAN RUNNER DRAKES.
Direct Importation From Harshbarger's Blue Ribbon Strain.

CHARLES V. PARKER

Villa Maria,
P. O. BOX 124, HANFORD, CAL.

BEEF CATTLE

Fourteenth International Live Stock Exposition

(Written for The Live Stock and Dairy Journal by H. T. Morgan.)

The fourteenth "International," which closed in Chicago the night of December 6th, was again "the greatest ever." It is not with a thought of attempting to report the show that I am writing, but rather to set forth some of its outstanding features as I saw them.

A large volume could be written on the interesting and instructive events of the week. The horse breeding interests have again demonstrated that the draft horse business is not only growing in volume, but the quality of the representatives of the various breeds is above that of any previous show. The prices which the good ones command is ample refutation of the theory that the auto truck has sounded the death knell of the draft horse. Should the time ever arrive when the auto truck supplants the draft horse on the city pavements, the farms of the country have need for hundreds

sively proved that the oldest and wisest of the men in the feeding business have full confidence in its future, as evidenced by the prices they paid for the lots of exhibition feeding cattle which were sold during the week to be returned to the farms for finishing. The grand champion carload of feeders, a beautiful bunch of Shorthorn yearlings averaging 693 pounds, brought \$9.10 per hundred. Interest attached in the sale of a load of champion Angus calves weighing 563 pounds at \$49 per head. This bunch of calves came from Midland, Texas, and were sold to go to New York, where they will be fed out as "baby beef." The above is but a further demonstration, not only of the popularity of the yearling feeders, but a demonstration of the economical possibilities of that sphere of beef production as well.

Kansas and Texas came strongly to

reserve for grand champion. He "came back," and his history and a review of his breeding is of real interest. Furthermore, it carries a real lesson in constructive breeding. His dam is a grade cow which was the dam also of last year's grand champion. The grand dam of Glencarnock Victor II was just an ordinary old red nurse cow. Some years ago Professor Kennedy of Ames, Iowa, purchased for the Iowa Agricultural College three purebred Angus calves from a breeder, and this red cow was at the time of purchase bred to a purebred Angus bull. The result of this mating was a heifer, which was later bred to the noted Angus bull, Vala's Rosegay, producing the dam of Glencarnock's Victor II as well as the grand champion of last year. Surely this is honor sufficient for one grand-daughter of an old red nurse cow. The steer was fed by a boy, Harry Bowman, not yet 17 years old, and a lad who has had no special training as a feeder, but has cared for Glencarnock Victor II since birth, and Mr. McGregor would not allow any of

his older and more experienced feeders to interfere with young Bowman in any way. It may be mentioned that Harry Bowman also fed the 1912 grand champion steer. This is a lesson of encouragement even for the boy who has not the advantages of an agricultural college course.

The champion was fitted on boiled barley, ground oats, some wheat, bran and oil cake, along with chaff and prairie hay. During his lifetime he had perhaps as much as a dozen forkfuls of alfalfa, and perhaps alfalfa "fans" may find some comfort from this fact. The steer also had some roots during winter months. The writer strongly suspects, however, that this steer also had a nurse cow or two in attendance during most of his two years of life, and it would be interesting to know just what amount of food he consumed, and the exact amounts supplied each day. With such data there would be more of educational value attached to his winning the highest honors at the world's greatest show.



Ringmaster, the Great Shorthorn Bull That Was Returned Grand Champion of the International for the Fourth Time This Year. Ringleader, a Son of This Great Sire, Heads Roselawn Shorthorn Herd, Owned by T. B. Gibson, Woodland, Cal.

of thousands of heavier horses. The farm labor question will only be solved by discarding the eleven and twelve hundred pound horse for the seventeen hundred pound animal for handling modern machinery on the average farm.

Judging by the large number of cattle entries and the wide range of territory represented, and the interest visitors displayed in these entries, one would conclude that this branch of the live stock industry is far from being decadent. The auction sales of purebred cattle during the week of the show surely remind one of the halcyon days of the business. The sale of about fifty head of Herefords at an average of \$562 each, forty-two Shorthorns sold at auction returned an average of \$426 on Thursday and on Wednesday fifty-two Angus brought an average of about \$275 each. The "car lot" sales of fat cattle at around \$10 per hundred (the champions selling up to \$13.25 per hundred) surely offers ample reward to the feeder. The sales of fat cattle furnished convincing evidence that extremely heavy heaves are not desired by the packers, and that "handier" weights command a premium. It is hard for some of the far Western feeders to grasp the idea that the younger cattle, yearlings and 2-year-olds, are to supply the "top" beef of the future, but such is evidently the case.

The sales of feeding cattle conclu-

the front in the champion carloads of hogs. Fifty-one Berkshires owned by E. D. King of Manhattan, Kans., won the grand championship, with a load of 428-pound hogs which sold for \$9.05 per hundred. This load and also a load of Poland China of about the same weight, coming from Frisco, Tex., came in for a great deal of favorable comment.

In the car lot classes for sheep, Idaho demonstrated that she is not only a breeding ground, but a finishing ground as well. The Knollin & Finch car of Western lambs brought \$11.25 per hundred, as against \$10.25 for the best car of "natives." The winning of the grand championship by these Western lambs shows that substantial improvement is being wrought among Western flocks. Free wool means that the producer must pay more attention to the carcass side of his business. It is not unlikely that another year will see larger prizes offered to Western exhibitors of sheep at the International.

Special mention should be made of the grand champion steer of the 1913 International. The same exhibitor, J. D. McGregor of Brandon, Manitoba, won this much coveted prize last year. This year's champion, Glencarnock Victor 2d, is a namesake of last year's grand champion, Glencarnock Victor, and it should be mentioned that the grand champion Glencarnock Victor II was here last year and was made

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More than usual interest attached to the grand champion individuals in the swine classes. In one of the hardest fought battles ever witnessed in the swine ring at the International, Francis & Sons of New Lenox, Ill., won grand championship on both single barrow and pen of three barrows. The Francis barrow was a wonderful example of the feeder's art. He weighed about 550, was 18 months old and fitted to the minute. His nearest competitor and the hog which was made reserve for grand champion was a Berkshire weighing perhaps a little less than the Bonlad barrow. The judges occupied fully an hour in rendering a decision, and announced that the Poland China was given the purple because of evidence of rendering a higher percentage of edible carcass. The decision met with the general approval of the "ringside talent."

Canada, not satisfied with capturing the grand championship steer prize, sent J. and D. J. Campbell from Ontario with a superb lot of Shropshires. This firm won the highest honors last year with a purebred Shropshire. Their champion wether this year was an outstanding winner, and a grade Shropshire at that. Oats, peas and oil cake were the grains used by the Campbells in fitting and growing their sheep. Clover hay and roots supplemented the pasture, and finished what the breeder so intelligently begun. These demonstrations serve to again remind us that the breeder's and feeder's art must necessarily go hand in hand if high attainment is to be achieved in either branch.

A "Southwestern" surprise was sprung on Saturday, the first day of the show, with the announcement that Texas had captured the first prize in the students' judging contest, which is an annual feature of the International. Teams from twelve agricultural colleges entered the contest this year, and while this was the sixth attempt by the Lone Star State, this year marks their first winning of the coveted position at the top of the list. It is notable also that the two highest scoring men were both on the Texas team.

It is conceded that the 1913 International brought out the largest and best finished lot of draft horses ever seen at any exposition in America. The uniformly high excellence of the animals shown placed upon the judges a great deal of responsibility, and the work of the jurors was watched with interest throughout the show, and was viewed by thousands of spectators. Especially was this true while the Percherons, Shires, Clydes and Belgians were before the judges in the ring. The grand champion Percheron Stallion was brought out by Crouch & Son of Lafayette, Ind., in 1912, a 5-year-old, massive black. In 1911 1912 he stood second and this year first. It is safe to say, however, that the real sensation of the Percheron show was the phenomenal record made by the get of Carnot, the 1909 grand champion exhibited by Crouch & Son and sold at that time to W. S. Corsa of Illinois for the record price of \$10,000.

Briefly stated, the get of Carnot won more money than did the produce of any other sire, and duplicated his triumphs in the group and produce classes. These triumphs are all the more remarkable when the fact is taken into consideration that the winnings were made by weanling and yearling Carnot colts, and in many instances in competition with much older animals.

In Shorthorn circles the three times grand champion at the International, Ringmaster, again "came back" and annexed the fourth grand champion trophy. It is said that he is the only animal of any breed that had ever accomplished such distinction. It would seem that he had won his full measure of high honors, and his repeated winnings at this great show reflects

great credit on the skill of his feeder, who has brought him to the show four times and taken him home a champion each year. Ringmaster was calved May 6, 1905, and with his present record, it would be difficult to find a breeder who is willing to lay a wager against this bull's ability to annex a fifth championship.

Beef production in the Southeast received a great stimulus when the magnificent Hereford bull, Point Comfort 14th, won the grand championship. This grand bull was exhibited by W. D. Davis of Jackson, Miss. The bull was considered one of the very best animals on exhibition regardless of breed. Point Comfort 14th was bred and reared below the quarantine line. A year ago Mr. Davis could not have exhibited breeding stock at the International, but the "dead line" is moving south and east, and as the tick is being fought and eradicated the quarantine line is gradually moving gulward, so that now Mr. Davis is free to exhibit his cattle to us of the north and west, and he has ably demonstrated that the favored south can produce "the goods" after the tick has been subdued.

Some of the interesting facts and figures pertaining to the Fourteenth International Live Stock Exposition are as follows:

The total value of all exhibits amounted to more than \$2,000,000.

The total number of individual exhibits was more than 4500 animals. This does not include "car lot" classes.

The daily attendance averaged more than 30,000.

There were seventy-two carloads of fat steers on exhibition and twenty-five cars of feeder cattle.

There were twenty carloads of "fat hogs" and seventeen cars of fat sheep.

There were \$100,000 in prizes distributed.

The grand champion carload of cattle were Angus yearlings exhibited by Escher & Ryon of Iowa. These gentlemen won this same honor a year ago.

The champion load of "feeder cattle" were yearling Shorthorns exhibited by A. A. Neals of Colorado.

President A. J. Lovejoy expressed the general opinion when he said to the writer on the last day of the show: "This show has been an unqualified success. It has been a great educational factor to those who attended."

A. G. Leonard, President of the Union Stock Yards and Transit Company, was elected President of the International Live Stock Exposition for the ensuing year. Mr. Leonard has been a moving factor in this great exposition since its inception, and another year will undoubtedly register another "high mark" in "the greatest show on earth."

MERCI RANCH SOLD.

Merci Ranch, Modesto, Cal., together with all the stock and equipment, except five head of horses, is sold, the purchaser being Dr. E. A. Stellar of Los Angeles, Cal. The former owners, the Centinella Land Co., of which Mr. Harry Lee Martin is President and principal owner, will remove their operations to Antelope Valley in the near future, where they will establish a certified dairy and go into the breeding of purebred Holstein-Friesian cattle on a large scale.

The herd that was collected by Superintendent Jay Dutter a year ago in the East has proven to be a splendid lot of animals, and have made some wonderful performances in the way of making big butter records. They have also made a record, unofficial, that is probably not equalled by another herd in this country. They have made a production of over 10,000 pounds of milk per head in less than one year, which is a wonderful performance. This herd also shows a

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record of over 20 per cent profit for the year of production and increase, net.

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It is expected that Dr. Stellar will assume charge of the place about January 1st. Superintendent Dutter will stay with him a few weeks for the purpose of acquainting the new owner with the animals, and the work now in progress on the place, after which Mr. Dutter will go to Riverside County for a short time to look after a ranch owned by the Centinella Land Co., and will then go to the Antelope

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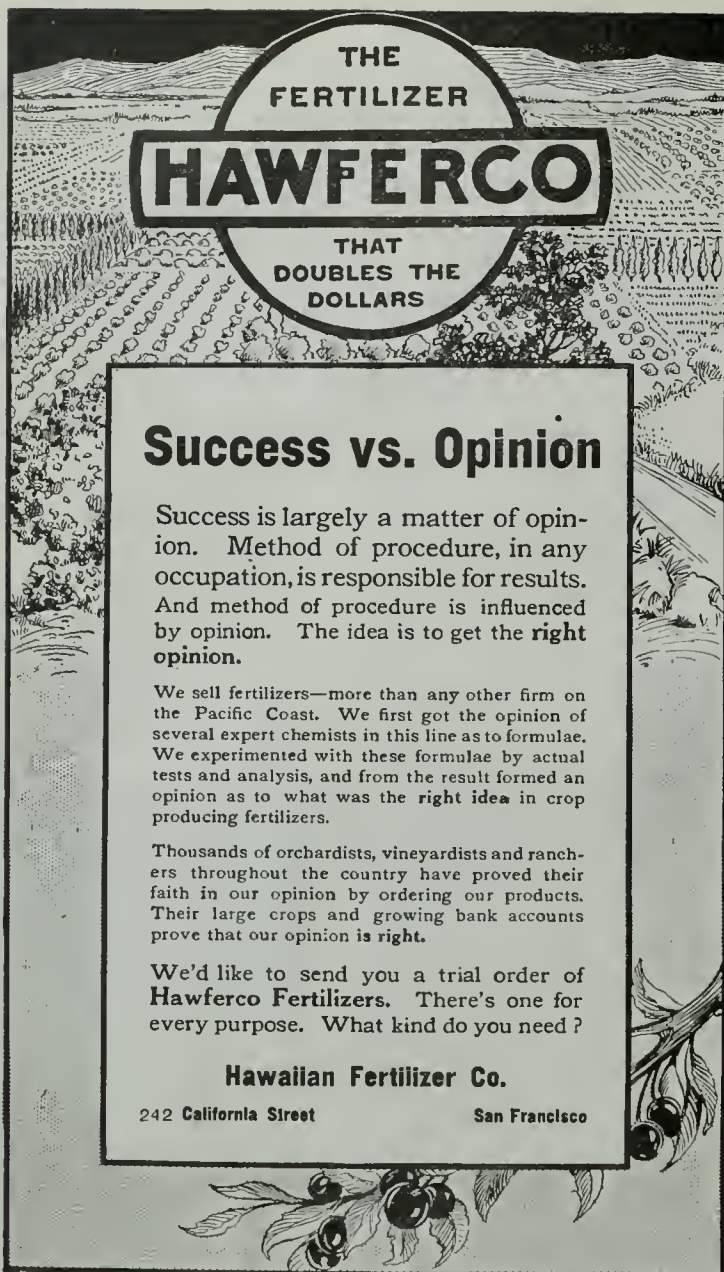
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Valley and look after the equipping of the new place purchased last year while he was in the East looking for cows.

As soon as the new place is well under way Mr. Dutter will go East and purchase another herd of cows, which for good breeding can not be bettered on the coast, and it is expected that from this foundation they will build the herd up to about 350 head of large producers, setting their standard high and working for the betterment of the breed of cows which they have chosen for this purpose.

It is probable that Dr. Stellar's family, which consists of three young daughters and two sons, young men, will not come at once to the ranch because of the schools, they wishing to continue in their present school until the end of the year. Mrs. Stellar will probably stay with the children in the south until school closes.



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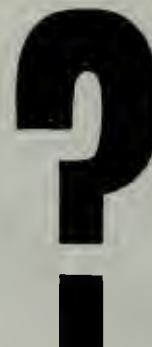
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THIRTEENTH YEAR

FEBRUARY, 1914



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Volume XIII.

No. 2

DAIRYMAN RECEIVES SUBSTANTIAL REWARD.

Gilbert Trigg, a Humboldt County, California, dairyman, starts off the new year with a reward for work well done. The premium list of the 1913 California State Fair contains this clause:

"To the owner of the herd of not less than twenty cows, which completes one year record of production in a regularly organized Cow Test Association, with the highest average production of butter fat per cow, \$400, provided two cows, selection of which and the display of the record of production by the herd, be approved by the Dean of the College of Agriculture, University of California, are exhibited at the State Fair."

Mr. Trigg has the distinction of having the highest testing herd in any cow testing association in the State, and just before New Year, a check for \$400 was mailed to him by the State Agricultural Society. While this check is in itself a very tidy little reward, it is more than likely that the greatest financial returns which will come as a result of the testing in Mr. Trigg's herd, will be in the form of increased creamery checks during all the years that he remains in the dairy business—with accurately selected cows. Only one dairyman in the State each year can win this prize, but the prize is worth going after by every dairyman. If you don't get the \$400 at the end of the year, it is a safe bet that the effort put forth in testing and raising the standard of the herd will be worth even more than the prize money, in its effects on the monthly cream checks.

DAIRY CATTLE BASE DATES MADE UNIFORM.

All dairy cattle classes at California State Fair will in future be figured from the base date of August 1st. This announcement was recently made by Secretary J. L. McCarthy, after such decision had been reached by the Live Stock Committee of State Board of Agriculture. This action will do away with the misunderstandings which were brought about at the last State Fair when one breed was based on one date and another breed on a different date.

FARM WASTE.

As a business institution the farm is frequently one of wasteful method. Practices followed on the average farm, if paralleled in the average manufacturing business for example, would result in ruin. We once knew a young man in the east who came out of technical school and went to work in his father's plow factory as a wet grinder. From this beginning he worked in every position in the plant until he became manager. Several plow factories in this same city, including the one belonging to the young man's father, were in a bad state of financial health. As soon as our young man became manager of one plant he immediately created a bigger job for himself by combining several tottering businesses and getting himself made manager of the combination. We believe that today this factory is one of the strong ones in its line, and the most impressive fact that we ever learned about the man who manages it, was that he had all the old packing cases and broken crates around the factory cut into kindling wood and tied up in uniform bundles which were sold at a nice profit. To get a proper estimate of this man's methods, methods which have resulted in a large success, the proper place to begin is at the little bundles of kindling wood. After that, on and up through all of the great business, there is the same elimination of waste. The little bundles of kindling wood did not provide the profit which spelled financial success in this plow factory, but the hatred of waste applied to all of the departments of the business did compel success.

Again we visited a manufacturing plant the output of which is incubators. The number of machines turned out annually is considerable. In the making of incubators there are uses for many very small pieces of wood. In the cutting of lumber for the larger parts there is a considerable waste of small pieces. Yet it was years before a new superintendent came into the plant and stopped the practice of burning these pieces, and the sawing up of boards into little bits to be used in places where the waste pieces answered the purpose just as well. We forget the amount of saving effected on a year's output of incubators by the saving instinct of the new superintendent, but it represented a tidy increase in profit.

On the average farm there is vast waste of time, labor, and material. One of the greatest is the waste of food-stuffs suitable for the production of animal products. It may be in the form of weeds which would make good mutton and wool. Again it may be the grain scattered on the ground during the harvest and which would feed and fatten turkeys for the profitable holiday trade. It may be in the form of skim milk, corn stalks, spoiled grapes, imperfect fruit, and scores of other products of the soil which could be profitably marketed through the farm animal and fowl. We have this waste, and the country is clamoring in terms of high prices for more animal products. That little kindling wood stunt is worth applying to farming.

BUY A BULL CALF.

The common practice of putting off the purchase of a bull until the breeding season is close at hand, results in inconvenience and sometimes actual loss both to buyer and seller. This is true of beef bulls as well as dairy bulls.

From the breeder's point of view, the necessity of carrying a number of bulls up to breeding age is something of a problem. One of the greatest disadvantages is that several bulls yarded together, as is done on most breeding farms, do not do nearly as well as

would be the case if each individual bull was by himself.

From the buyer's standpoint, there are many things in favor of the buying of a bull calf and developing him to maturity. In the first place there is an opportunity for more deliberate and intelligent selection, and snap judgment is not compelled by the immediate demands of a service sire. The calf can of course be bought for less money than he will bring when he reaches breeding age, and the difference in price will in most cases, much more than offset the cost of his feed and care. In case the bull is to be shipped by express, there is also quite a substantial saving in transportation charges, in favor of the calf.

The calf is almost certain to receive the benefit of more care at the hands of his buyer than he is at the hands of his breeder, for he will have the advantage of being by himself and free from the influences detrimental to right development which are always present when a number of young bulls are yarded together.

The buying of a bull calf is the best possible insurance against the chance of being compelled to make a hasty selection of the leftovers, after the wise early buyers have taken the best, at breeding season time.

HOW DAIRYMEN FARED DURING A DRY SEASON.

The year 1913 was one of the driest experienced in California for many years. There was a great deal of hardship worked on the dairyman who had to depend upon range feed for his cows, except in the favored county of Humboldt. But considering dairying as a state-wide business, dry seasons have forever lost their terrors in California. Irrigation, and alfalfa have already fortified the dairy business against the hazard of rainfall, and the silo is already becoming an additional fortification.

In spite of the unfavorable feed conditions in the counties most affected there was not any sensational drop in dairy production in any of them, and the State as a whole showed a gain of close to two millions of dollars in value of product. The total value of dairy products in California for the twelve months, October, 1912 to September, 1913, was \$34,050,552, according to the figures of California State Dairy Bureau. In butter production Stanislaus County leads by a wide margin with a production for the year of 7,541,900 pounds, and Imperial County takes its place as second county with 5,398,228 pounds, forcing Humboldt into third place.

The volume of values of dairy products in California has become one of the great factors in the placing of the State's agriculture on a firm foundation. In spite of drouth, frost, flood, and the other ills to which the annual farm crop is now and then subjected, the dairy cow passes through them all in productive serenity, yielding the golden flow of ready and continuous cash which not only finances her own business, but also provides a surplus which tides over the annual crop farmer during the season of stress.

HEALTHY CATTLE.

A statement contained in the address of Dean Hunt of California Agricultural College, before California Live Stock Breeders' Association, sounds a warning which it is well to heed. Dr. Hunt emphasized the fact that what California needs is to have HEALTHY cattle, and while placing the full importance upon the necessity of having animals of correct breeding, yet there can be no constructive breeding unless the animals are reasonably free from disease. The present condition of cattle health in California is an alarming one, according to Dr. Hunt's statement that out of 6,000

head tested within the past few months by men from the Experiment Station, approximately 4,500 were found to be tubercular. This is an intolerable condition and it can be overcome only through the earnest co-operation of all farm animal owners in the State. Illinois is fighting her problem along the same line right now, but it required the enactment of some definite laws to bring the cattle owners of the whole state to a realization of the gravity of the situation. This is no question to be handled by women's clubs and city health officers. It is the problem of the cattle owner, a problem of dollars and cents. If approached on that basis and solved according to the requirements of a cold business proposition, there will be no reason for the crusades of sentimentalists.

WORKING DEMONSTRATION OF TRACTORS

On February 19, 20 and 21, farmers of the State of California will be afforded an opportunity to see a number of different makes of traction engines doing actual farm work, all in one field. The demonstration will include both light and heavy tractors, and will include orchard and vineyard work as well as the hauling of plows, harrows, etc., in ordinary field work.

We believe that this demonstration will be of great educational value to every farmer who can possibly attend, as the participating machines are the product of some of the best factories of the country.

This demonstration will be held just out of Fresno, on some tract close to an electric road, and will be under the supervision of Prof. F. L. Peterson, head of the Division of Farm Mechanics University of California, a practical farmer of the San Joaquin Valley, and a representative of Orchard and Farm, of San Francisco, which publication is responsible for the organization of this most commendable demonstration.

EL DORADO-AMADOR CATTLEMEN MEET

The regular annual meeting of the Amador-El Dorado Live Stock Association, with a membership representing three-fourths of all stock grazed within the El Dorado national forests, was held at Placerville, California, January 27th.

An advisory board was selected as follows: A. F. Forni of Placerville, Charles Swift of Latrobe, E. O. Rupley of El Dorado. This board will co-operate with the supervisor of the El Dorado forest in administration of grazing regulations and rules of the forest service.

Bert Granlees of Ione, manager of the big stock interests of Morris & Comstock, was elected chairman of the association.

J. H. Hatton, assistant district forester, in charge of grazing in District No. 5, gave an address on the attitude of the forest service toward grazing, and emphasized the relation of the benefits to be derived through active co-operation between stock associations and the administration office of the service.

JERSEY BREED HAS NEW CHAMPION

A new Queen now reigns over the Jersey breed, by virtue of being its greatest producer. She is Sophie 19th of Hood Farm, and has completed a year's authenticated test with a production of 17,557.75 pounds milk, 995.688 pounds butter fat, equal to 1171 pounds 6 ounces churned butter. She is a six-year-old, and in her four-year-old form produced 1005 pounds 11 ounces butter in one year.

THE DAIRY

Handling the Ensilage Crop in California

"Would be pleased to know what dairymen of California think of the silo, and outside of alfalfa, what is the best silage that can be grown in the San Joaquin Valley.

"ELBERT L. EVANS, Stanislaus County."

This letter reached the Journal after the following articles had already been put into type, and we believe that many hundreds of dairymen have in mind practically the same question that Mr. Evans has put up to us. It was to answer those questions that the experiences of practical and successful dairymen were sought.

In considering the variations in the experiences of these writers, it is well to bear in mind that no other State in the Union nearly approaches California in the clear cut contrasts in climatic and soil conditions to be found within a radius of fifty miles of any given point in the State, and the localities represented in this series of articles are quite widely separated.

It will not be amiss to emphasize one point in introducing these articles, and that is silo construction. We have to deal with three classes of silos in California—concrete, stave, and resaw. It must never be lost sight of for a moment that spoilage is the greatest danger in the storing of ensilage, and that spoilage is due to the admission of air. Concrete of itself is neither waterproof nor airproof, and the interior of a concrete silo must be thoroughly waterproofed before the silo can be considered as an airtight container. The stave silo must be constructed of the best grade of clear fir or redwood, and the staves must be prepared with a perfectly true bevel that they may close together properly. The resaw silo, while low in cost of initial construction, affords the greatest chances for bulging, splitting, and nail pulling, which are likely to result in air passages and loss of ensilage. If you have a silo, and from the following articles you learn something of value, and you have learned something of public value in the handling of ensilage, which is not mentioned in this series, the Journal will be glad to have your experience.

HANDLING INDIAN CORN AND SORGHUM FOR ENSILAGE.

Many dairymen who are milking on a straight ration of alfalfa hay, or possibly supplementing it with high priced concentrates, are looking with longing eyes to a well filled silo before another Winter sets in. An empty silo is the most useless thing to be found on a ranch, so before building one, the forehanded dairyman prepares a crop to fill it. Right now many are pondering the problem of how to grow the cheapest and best crop to fill the silo.

Since we are brought face to face with the unwelcome competition of Kangaroo butter, it behooves every dairyman on the Pacific Coast to make every lick count for economy and excellence in the production of butter fat.

The reports from various experiment stations lead us to conclude that all kinds of ensilage are good, but none has been found to excel corn. Alfalfa makes good ensilage when properly handled, though lacking in carbohydrates, and does not give the best results when fed with alfalfa hay. Barley, oat, and wheat hay have each been made into good ensilage, but many have found them unsatisfactory owing to the hollow stem containing air which it is difficult to expel. When such crops, or any other for that matter, are put into the silo it is well to add plenty of water and tramp down thoroughly.

In the irrigation districts, many of the dairymen keep their cows up all the Summer, feeding hay and possibly some soiling crops. Such would find a Summer ensilage very beneficial and more economical of labor than cutting green feed every day or two.

Among the alfalfa growers, the devil grass or broncho grass and foxtail have come to be a problem to be reckoned with. These grasses appear in the first and second cuttings. If allowed to ripen in the first cutting, they spoil the palatability of the hay, and work, in many instances, great injury to stock. If cut before the head hardens, or while the head is still in the sheath, the first cutting becomes the best hay of the season but the devil grass and foxtail promptly come up in the second cutting and ripen before the alfalfa is fit to cut and render it the poorest hay of the season. This second cutting comes along

about the time oat hay is ready to cut, and if cut and put into the silo along with the oat hay or barley or wheat hay, an ensilage superior to alfalfa or grain hay ensilage alone will be obtained, and the beards of the devil grass and foxtail will be rendered harmless. Then the ground is available for a crop of corn.

If time allows, all the manure about the place should be spread onto the ground and then the land well irrigated. If the ground is clean and free from roots, the lister is a good tool to use in planting. That saves plowing and gets the corn well rooted down below the surface where it can draw on the moisture after the surface is dry. Immediately after listing, the ridges should be harrowed lengthwise of the row, and when the corn is eight inches high a disc harrow with the discs set to throw the dirt in, is the best tool I have found to level the ground. A second irrigation should be applied any time available after the corn is well up, and the ground thoroughly worked as soon as it will do thereafter. I have found that harrowing after the disc produces a finer mulch and pays well for the labor, providing the corn is not too high. If on good ground with good seed, this method of planting, with two harrowings, one discing, one irrigation after the corn is up, and one cultivation, should produce from fifteen to twenty tons of green ensilage per acre.

Last Summer I planted corn in alfalfa sod with the lister, and it was not at all satisfactory. This year I have another patch of alfalfa sod to put in and shall plow deep, then set the planter so as to put the seed three or four inches deep. Last season the roots of the alfalfa interfered with the lister and made a bad job all around.

Next to corn, cane or sorghum is probably the best ensilage, but care should be taken not to put it in too green, or the ensilage will have a tendency to sour. By planting sorghum in April in this and similar localities, we can feed it as a soiling crop till August, and then let it grow up and ripen and have a heavier crop than could be obtained from corn. In this case you will not have the crop of grain hay, and if sorghum is planted after oats it will not make as heavy a yield as if it had been cut back once.

What I have written is applicable to conditions which prevail in the

READ THIS LETTER

Ambrosia Cream Co., Napa, Cal., Nov. 14, 1913.

De Laval Dairy Supply Co.,
San Francisco, Cal.

Gentlemen:

The silo that I purchased from you this year has proven to be very satisfactory, and want to compliment you on the good clear 2x6 redwood staves that you used in the manufacturing of the same. There is no question as to the Ideal Green Feed Silo being superior to the resawed or home-made silos, as it is absolutely air-tight and is manufactured from first-class material throughout.

In erecting my silo I did not use either a hammer or saw except for the staging. I have been feeding out of the silo for several months now, and have yet to find any spoiled ensilage. No dairyman who expects to get the full results from his cows can afford to be without a silo, and from my experience with different silos, I am convinced that your Ideal Green Feed Silo is far superior to any other kind.

Yours very truly,

H. I. MIDDLETON.

WRITE FOR CATALOG D FOR FULL INFORMATION

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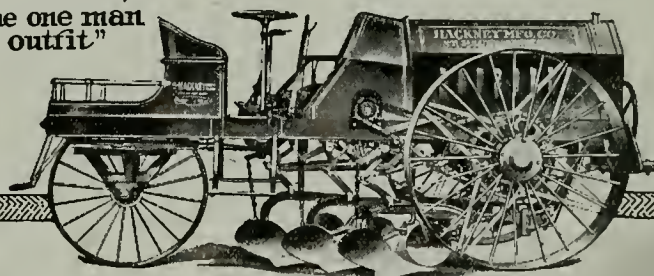
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If you buy your machine with care it will be the Hackney Auto-Plow, because: 1—The Hackney has been designed and built by a tractor manufacturer for tractor purposes; 2—It has a slow speed heavy-duty motor, (not an automobile type of engine); 3—It has extra heavy cylinders, crank-shaft case, and base; 4—Its connecting-rods and bearings are at least one-third heavier than those of an automobile type of engine of the same power; 5—It has a 2½ inch crank shaft and a force-feed oiling system; 6—By loosening one bolt, operator can adjust any bearing in the motor or remove any one of the 4 pistons without crawling under the machine; 7—It burns coal oil, distillate or gasoline; 8—It can be both operated and driven by one man.

This special motor combined with the Underslung Plow and special two-way transmission is the secret of the Hackney Auto-Plow's durability and success.

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irrigated districts, and on sand and sandy loam, and may not be suitable in other localities, or on adobe or heavy soils. If you have a method of growing corn which produces good results, don't discard it till you have tried out the other.

Ceres, Cal. E. L.

THE ENSILAGE CROP.

(Written for The Live Stock and Dairy Journal by C. G. McFarland, Tulare County.)

I consider the ensilage crop to be the most important crop that the dairyman of California can grow, for which there are several reasons, some of which I will briefly state.

He can produce more tons of feed per acre than with any other crop that grows.

There is nothing its equal for winter feed for the dairy cow.

It not only furnishes a succulent feed, but in so doing, the cows' digestive organs are kept in perfect condition.

It can be raised cheaper per ton than any other feed, and the planting comes before the rush of the summer season, and the harvest after the summer rush, making it easier to secure help.

And last, but not least, the soil is in excellent condition for the next year's crop, whatever it may be.

The first thing I think of is the securing of seed. I use corn as my ensilage crop, and plant southern grown seed, either large yellow or white, and a variety that produces heavy fodder. I have used both milo and kaffir corn, but neither produces like the Indian corn, and is far less palatable to the cows, although kaffir is preferable to milo, consequently I plant nothing but Indian corn.

The most important factor in raising Indian corn is the preparation of the soil. Select a good piece of soil, nothing better than an old alfalfa field. Then plow in late winter or early spring. When plowing, be sure to turn the soil thoroughly, and plow deep, say eight to ten inches, for well we know that most of our failures are due to lack of thoroughness.

The farmer must remember that a poorly prepared seed bed must consequently yield poorly, and so it behooves him to use all care in preparing that bed.

After plowing, be sure to cultivate and harrow thoroughly, and keep the stock off the land, as we all know that a few head of stock on a piece of wet land can pack it more in one day than a man and four horses can get mellow by cultivating for six days.

If it is the intention to use a piece of land that has been cropped to grain any length of time, be sure to give it a liberal coating of manure. The cultivator and disc harrow should be used liberally to retain the moisture and keep down the weeds.

Be sure the soil has plenty of moisture, but is not wet, before seeding. Do not work wet soil at any time, because the clods will form and lay there all summer, and there will be a consequent loss of moisture.

Before planting, be sure to cultivate thoroughly or plow shallow. Some may say that they do not want to lose the use of the land so long. If that be the case, plow shallow but thoroughly about the first of April, and harrow down well. It should be remembered that if the ground is not moist it should be irrigated before plowing. I have seen farmers plow the ground when it would turn over as slick as glass, but I would much prefer letting it get a little dry, to that way of farming.

If this method is followed, then about the middle of April or first of May, thoroughly irrigate, and when the top surface is dry enough to get the team on, disc or cultivate and in about a week plow deep.

Don't be afraid to harrow five or six times. Every extra harrowing will doubly pay for the labor in the extra yield of corn when harvest time comes.

Plant the corn somewhere between the tenth and twentieth of May. Plant in rows $3\frac{1}{2}$ feet apart, putting the kernels from 6 to 8 inches apart and about 3 to $3\frac{1}{2}$ inches deep in sandy or sandy loam soil, but not quite so deep in heavy soil. I prefer planting with a planter that has the wheels to pack the dirt.

Never let a crust form on the surface after planting. Use a harrow with the teeth sloping backward. After the corn comes up, harrow every three or four days until it is about six inches high. It may have the appearance to you that the corn is all being pulled out, but the harrow is doing far more good than damage.

Corn should be cultivated often. At first about four or five inches deep, but after the roots begin to spread out use teeth on the cultivator that only work the top of the ground. If your hardware man does not carry such a tooth or shovel, have the blacksmith make them for you. If the corn should later need irrigating, be sure to cultivate afterwards unless it is too tall. In dry seasons it may be found necessary to irrigate at tasseling time. If good seed is used, and the work from the beginning to the finish is done thoroughly, at least fifteen tons of green corn per acre may be expected.

ENSILAGE MOST ECONOMICAL FOR DAIRY FEED

While the silo in California is not a necessity in the dairy business as it is in the East, our limited experience during the present winter would lead us to believe that, even here, it is essential to the realization of the greatest profit.

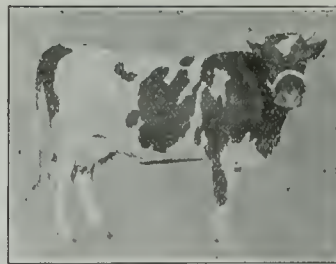
Land is becoming so high in California that dairying can not be profitably carried on in the old way. We find that several acres of pasture are necessary to produce the amount of feed that can be grown on an acre of corn. By the use of the silo this can be economically stored and kept for an indefinite length of time, and in feeding there is absolutely no waste.

The silo is very necessary in the non-irrigated districts, and even in the great alfalfa producing sections it will be found of great value. Our judgment is that corn, where it can be successfully grown, is the only crop with which to fill our silos, since it supplements our alfalfa so well. Cows are producing well on alfalfa alone, but we are getting more out of our hay by feeding it in conjunction with corn silage.

Governor Hoard has said: "Silage, like grass, has a value for dairy cows not measured by its chemical analysis. The succulence of these feeds has a dietetic effect that cannot be expressed by chemical formulae." The silo provides us with a succulent feed for winter, it keeps the cows' digestion in such condition that she makes better use of other feeds, and it makes it possible to keep our herd producing to the maximum the year through.

The prevailing opinion seems to be that the cost of the silo and the expense of growing and putting up the silage is too great. In fact, we were under the impression that there was a vast amount of work connected with it and that the benefits derived would not warrant the trouble and expense, and so for several years we have grown roots instead. On failing to get a stand of beets last spring, we determined to try out the corn for silage.

After cutting a crop of barley hay, a piece of ground was plowed, irrigated and planted to corn. The corn came on rapidly and it was decided to try another small piece of land which was growing a crop of barley. The



Raymond Oth's Desire or Lewison.

ALTA VISTA HERD

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Owned by Chas. G. Lathrop, Stanford University, Cal. A number of mature cows, some of them imported, bred and unbred heifers, and some choice bulls. A number of the heifers are bred to Violet's Pride of Iowa, whose grand-dam has an A. R. record of 912 pounds butter-fat in one year.

Inquiry or inspection invited.

PACIFIC GUERNSEY HERD

Offers for sale the sire GLENWOOD OF ROSENDALE (14051), a direct descendant of the great Glenwood family, a strain that produced MIRANDA OF MAPLETON (A. R. 914), 927.16 pounds fat, DAIRYMAID OF PINEHURST (A. R. 843), 910.67 pounds fat.

Dam, COUNTESS FANTINE (A. R. 344), 502 pounds fat at $2\frac{1}{2}$ years, 582 pounds fat at $3\frac{1}{2}$ years. Sold for \$875.

GLENWOOD OF ROSENDALE is a fine individual, and is guaranteed in every way.

Also offer four choice bull calves, ranging in age from 2 to 8 months.

If interested, address

C. S. RASMUSSEN, LOLETA, CALIFORNIA

Berkshires—Guernseys

OUR BERKSHIRES are the finest in the State. At the last State Fair we entered in fourteen classes and won ten firsts.

FIVE HERD BOARS IN THE HERD. Stock of all ages for sale.

We offer for sale Bull Calves of A. R. breeding on both sides. Some of the younger ones are by DON ADONIS OF LINDA VISTA, whose dam, two grand-dams and two great-grand-dams have an average record of 714 pounds butter-fat in one year.

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At the Oregon State Fair, 1912, my herd won all first prizes but two and all Champion and Grand Champion prizes. At the California State Fair, 1912, my herd won all first prizes but two, both gold medals and all Championships but one. Young stock of the finest quality for sale. Write for circular.

Frank Reed Sanders,

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solve your equipment problems. Agent for De Laval Separators, James Barn Equipment, and a full line of Gasoline Engines, Motors, and Irrigation Machinery.

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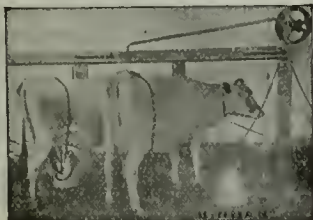
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Has had a wonderful year—2381 machines sold in 1913.

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Read the following:

Brawley, Cal., Nov. 28, 1913.
C. F. Daniels & Son,
Modesto, Cal.

Dear Sirs: I have investigated your machine (THE HINMAN) thoroughly and am thoroughly satisfied you have the only practical and efficient machine on the market.

Respectfully yours,

F. B. MACKIN.

C. F. DANIELS & SON

MODESTO, CALIFORNIA.
Agents for California and Oregon.

crop was harvested in July, yielding over twenty sacks of barley per acre, and the land prepared and planted to corn. The results were very satisfactory and, when the corn crop was assured, preparations were made for the building of silos.

After some investigation it was found that the so-called resaw silo was giving good results and could be built at the least cost. Material was ordered for two silos 14 feet by 32 feet. The first silo was built by a crew of carpenters at a total cost of \$250.00. On the second silo one carpenter was employed and three unskilled laborers, and it was built at a total cost of \$200.00.

The material used in the construction of these silos consists of two layers of 1/2-inch x 8-inch redwood, sized and surfaced one side, with two layers of building paper between. The studding is 2x4 pine and placed 12 inches apart. No bottom was put in, as we have been informed that this is not necessary. The silo is built on a concrete foundation 12 inches deep and 10 inches in thickness. On top of this is layed a circle sawed from 2x12 redwood and to which the studding is spiked. For the top of the silo a circle is cut from 1x12 redwood, using two thicknesses. The siding is well nailed and care was used in breaking joints. The silos have not been roofed and as far as can be determined, no damage has resulted from rain.

We give below a list of the material used in one of these silos, the capacity being about 100 tons:

2800 square feet redwood resaw.
44 pieces 2x4 pine.
8 pieces 1x12 redwood.
4 pieces 2x12 redwood.
100 lbs. 7-penny box nails.
10 lbs. spikes.
3000 square feet building paper (2 layers).
10 sacks (2 1/2 barrels) cement.
2 yards gravel.
Labor, 5 days, 4 men.
Total cost, \$200.00.

It will be noted that no provision was made for doors. As the corn was ready for cutting when the silos were completed, no doors were cut before filling, but are being put in as the silage is used.

It was found that with a corn binder and a good cutter, five teams and twelve or fourteen men could very easily fill one of these silos in one day. We were very much surprised to find how small a task it was to put up the silage. It was found that we could grow the corn and put it in the silo for \$1.50 per ton, which is considerably cheaper than we can put up hay. The work is small as compared to putting an equal number of tons of hay in the barn.

The cows have taken well to the silage and after the first month's feeding, during the worst possible weather, we can note a gain in butter fat, and a marked saving in other feeds. Cows are in splendid condition, and so far we are well pleased with the results.

By proper management, we are sure that a very profitable hay crop can be grown and followed by a good yield of corn. By making good use of

manure and rotation of crops, land can be cropped in this way and kept in the best of condition.

In preparing for the corn we get best results by plowing to good depth, then irrigate, and as soon as the land will do to work, cultivate the surface well and plant. With the proper cultivation and irrigation there should be no trouble to produce ten to fifteen tons and in some cases twenty tons per acre. We find that our corn does not ear as well here as in the East, but several experiments have proven that there is practically no difference in the feeding value of silage made from corn with ears and from corn that had not developed ears, the nutrients being supplied in the stock instead of the ear.

We believe that every dairyman should have a silo. He will find it a great relief in times of short feed, not only for the cow, but for the young stock as well.

A. W. MORRIS & SONS' CORPORATION.

By Frank L. Morris.

Yolo County.

GROWING INDIAN CORN FOR ENSILAGE.

(Written for The Live Stock and Dairy Journal by J. A. Bone, Kern County.)

It has always been a serious problem with the dairyman, as to how to provide a sufficient feed for his cows during the winter months. The growing of Indian corn is the best solution of the problem to date.

It is necessary, in dairying as well as in other business, to produce this corn at the least possible expense. In order to do this, a crop of grain hay should be grown on the land first, and right here is the greatest trouble in raising corn, as the time is so short and it is of great importance to get it planted as early as possible.

You must have all your plans laid and know just exactly what you are going to do, and how you are going to do it. You must also have all your tools ready and in good order, so that no time may be lost in getting started to plow as soon as the hay is off the land.

When the land is nearly all plowed, you can begin to irrigate. This plowing breaks up the hard, sun-dried surface, and puts the ground in very good shape to take a lot of water into the subsoil and store it there for future use.

After the ground has all been well irrigated, you must watch it CLOSELY till it is in the right condition, then plow it again. It must be neither too wet nor too dry—just so it breaks up nicely with lots of moisture in it. It ought to be plowed a little deeper this time, as it will mix the decaying vegetation well with the soil, providing humus and a deeper seed bed. The ground should be well harrowed close up behind the plow, and planted close behind the harrow. When you have quite a piece planted, harrow it again, and still once again, just as the corn is coming up, it will do no harm to the corn and lots of good to the land by holding the moisture as well as

The Test of the Giants in Farm Traction, Will Clearly Demonstrate the Superiority of the Track Layer

The C. L. B. 70 H. P. Track Layer will be exhibited at the CALIFORNIA FARM POWER DEMONSTRATION at Fresno, on February 19th, 20th and 21st, and at Marysville on March 5th, 6th and 7th. At those places and on those dates we will be prepared to demonstrate the absolute superiority of our Tractor over any other Tractor manufactured.

Gold Medal California State Fair, 1913.

Gold Medal California Land Show, San Francisco, 1913.

The C. L. B. 70 H. P. Track Layer will Plow, Harrow, Seed, Harvest, Ditch, two-thirds cheaper than it is possible to do with mules or any animal power, and will make continuous turns, loaded, as short as any Track engine on the market.

Both Tracks on a C. L. B. 70 H. P. Track Layer are pulling the same, whether going straight ahead or making a turn. No other Tractor of this type does this.

The C. L. B. 70 H. P. Track Layer eliminates the twists and strains, common to the type which only pulls with one track on the turn.

The 8 inch face internal gear drive on a C. L. B. Track Layer, with its 8 inch face driving pinion, does the same work as second motion chain drives. Hence the C. L. B. 70 H. P. Track Layer has only two moving parts in its internal gear, against approximately 40 moving parts in other track laying machines.

For further particulars, data and information call or write

C. L. Best Gas Traction Co.
105th Ave., Oakland, Cal.



Lily of Willowmoor and Four Daughters. All in Willowmoor Herd of Registered Ayrshires, Willowmoor Farms, J. W. Clise, Owner, Redmond, Washington.

Mention The Live Stock and Dairy Journal When Writing to Advertisers.

killing many of the weeds just as they are beginning to break through the ground. Another point in favor of this harrowing is that it keeps the surface of the ground loose and postpones the first cultivation until the corn is well up, and can be done much cheaper.

As soon as the corn is well up you can begin to cultivate, and cultivate as often as you please. The oftener the better. Then if you have done a good job, you should not need to irrigate again until your corn is up high, high enough to shade the ground and cover it well. At this time irrigate well and it will need no more.

Selecting the seed is of great importance. If you have not good seed of your own, it is best to buy it of some of your neighbors. Seed grown in your own locality will do better. You should get good, well matured corn that has been harvested before cold weather, and use nothing but large, well filled, plump ears. Shell it by hand and do not use any of the kernels close to either end of the cob, as they are not to be relied upon to germinate, and being of unequal size and shape, bother in the planter.

Corn for silage should be planted from 6 to 8 inches apart in the row, and the rows about 3½ feet apart.

If there is much grass or sod in the ground, a disc cultivator will do the best work, as it leaves the ground in better shape and draws the soil up to the corn nicely. In harrowing after the corn is planted it is better to use a light harrow and set the teeth slanting backward a little.

HANDLING MILO MAIZE FOR ENSILAGE IN TULARE COUNTY.

The silo is fast gaining prominence in California as well as in the east.

The past dry season seems to have stimulated interest in the possibilities to be found in the feeding of ensilage

in this locality to a great extent, although a great many dairymen have hesitated to build silos on account of the high cost of construction. The prevailing idea seems to be that it will cost from \$500 to \$1,000 to build a silo, and that nothing but specially grown Indian corn will do to fill it with. Now this is a wrong impression altogether.

In August, 1913, I built an 80-ton silo (12 feet in diameter by 32 feet high) for less than \$100. Of course I have no roof, nor cement foundation. The former is not necessary except as a protection from the sun during the time the silo is empty, and the latter could be put in at a small cost. I have a ground floor, and I do not believe that the loss from a ground floor in ten years would amount to enough to pay for a cement floor.

My silo is built of 6 inch redwood resaw and w. p. 2x3 studding 18 inches apart, with 2x6 redwood sills. The resaw is double, with 1 ply roofing between, but ½ ply would answer the purpose just as well. I made the doors by cutting holes between the studding every four feet, the door being 1½ by 4 feet. This makes a stronger silo than one with a continuous door, as we have a solid hoop 4 feet wide between each door. To close the doors when filling the silo, I nail a cleat to the studding on each side of the door and fit on one tier of boards and then tack a piece of roofing over the entire window, letting it overlap on all sides. The wet silage will cement the roofing to the boards and we have an absolutely air tight door. It is necessary to have a chute about 20 inches square running the whole length of the silo over the doors to prevent the ensilage from blowing away when being taken from the silo. Of course a much more expensive silo can be built if we see fit, but the above answers all requirements very satisfactorily and will hold enough to feed twenty cows about six months.

Now as to the crop to be ensiled. I have tried white Egyptian corn, milo maize, Indian corn, and first crop alfalfa, all with satisfactory results. I am unable to distinguish any difference in the feeding qualities of the different varieties of corn, although I prefer milo maize on account of its adaptability to this country, and in my experience, I find that it will yield more feed per acre, both fodder and grain, and requires less water than the Indian corn, and seems to have more juice in the stalk.

I am planning to cut off about one-half the heads next season before I put it in the silo. I can do this and still have as much or more grain in the ensilage than I have in the ensilage made from Indian corn this year.

The foxtail and alfalfa made a fair grade of feed, much better I think than if put up for hay. Ensiling the foxtail has a tendency to soften the beards, consequently they are not so severe on the cows. Another advantage to be considered in putting foxtail in the silo, is that the Spring rains, instead of damaging the hay is really a benefit to the ensilage.

The corn for Winter silage can easily be raised after a crop of grain or hay has been raised on the land. I planted my corn last season about July 1st, after taking off a crop of grain, and put it in the silo about October 1st.

I irrigated all of the land before plowing. After plowing I harrowed the ground once before planting and once after. I cultivated the corn with a disc cultivator when it was about four inches high. This ended the work with the milo maize until cutting, but I had to irrigate the Indian corn again when it was about waist high.

I planted both varieties very thick, consequently the ears were small on the Indian corn, but the milo headed



FIRST ANNUAL CONSIGNMENT SALE OF

Registered Jerseys

BY CALIF. BREEDERS AT PUBLIC AUCTION

APRIL 2nd, 1914

ON G. O. HILLIER JERSEY FARM, MODESTO

96 Head — 96 Head

Consignments by G. O. HILLIER, Modesto; J. N. LESTER, Corcoran; W. A. BRADLEY, Turlock; R. L. WALTZ, Hanford.

A magnificent offering of some of the best individuals of blood lines in America. Famous Bulls, such as KING POLO OF BLEAK HOUSE, GERTIE'S SON, MARQUIS OF T.

Over 70 head of Females. Many Register of Merit Cows with wonderful records. The best selection of Registered Jerseys ever offered for sale in California.

A WRITTEN GUARANTEE WITH EVERY ANIMAL SOLD

APPLY G. O. HILLIER FOR CATALOG AND PARTICULARS.

G. O. HILLIER, Sales Manager,
Modesto, Cal.

B. A. RHOADES, Auctioneer,
Los Angeles, Cal.

BREED for INCREASED FAT PRODUCTION

By using a Pure-bred Jersey Bull carrying the blood of heavy producers. I offer a 13-months-old Registered Bull, sired by General Grimm and out of Lady Burdette 4th, an inbred Grand Roter Cow that milked 33 pounds of 5.1% milk in one day with first calf. This Bull is a good individual, solid color. Price \$125.00.

WILLOWWOOD JERSEY FARM

C. G. McFARLAND, Prop. R. 2

TULARE, CAL.

WE LEAD IN JERSEYS

We are unable to fill our present demand for Jersey helpers, and have no more for sale.

We offer a few richly bred Bulls, ranging in age from 8 to 18 months. Write for breeding and prices.

Rancho Dos Rios, R. E. WATSON, Manager, R. F. D. 2, Modesto, Cal.

B. & F. RANCH Registered JERSEYS

Our herd is headed by Merry Maiden's Conquest, a handsome son of Merry Maiden's 3d Son, Grand Champion Jersey Bull at St. Louis Exposition.

The females in our herd are of the best blood lines of the Jersey breed, and out of them and sired by our herd bull, we offer a few good young bulls.

For prices and pedigrees write or call,

F. O. FRAZIER, Covina, California

YELLOW JERSEYS

BEAUTIES sired by Gertie's Lad, out of authenticated test cows, ages up to 5 months. Prices right.

The get of Gertie's Lad are ALWAYS SOLID COLOR, and he sires cows that give 7 gallons of rich milk a day.

Buy one of his sons NOW. They sell young.

I have two yearling heifers, handsome, thrifty, sired by Olga's Mella's Pogs (92000). Price right.

Papers free will all stock. Tuberculin tested herd. I keep no grades. Nothing but REGISTERED JERSEYS.

X. CARRITHERS, R. 3, Box 105, Tulare, Cal.

Reference, First National Bank of Tulare.

IF YOU HAVE GOOD COWS

And want better ones, buy a Pure-Bred Jersey Bull and breed your good Cows to him. The first crop of calves will carry 50% of his blood, and care should be taken in selecting the blood which will be one-half of your helper herd two years from now.

We have some choice young Registered Bulls sired by KING'S VALET and BORELLO'S GOLDEN LADDIE, both of which are noted for high breed type, and out of dams which are producing butter fat profitably as members of a working dairy herd.

Come to Lockeford and see our herd. We have some exceptionally good Bull calves, any one of which would be a good individual to develop as your future herd sire. If you cannot visit us, write us your needs.

N. H. LOCKE CO., Lockeford, California
NO FEMALES FOR SALE AT PRESENT

100—HIGH GRADE JERSEYS—100

I have 100 head of High Grade Jerseys, all bred, and most of them will freshen within the next two months. Price, \$60.00 per head. These are entirely healthy, and they are choice. Cattle are at Nashville, Tennessee.

H. T. MORGAN, Glen Ellyn, Ill.

BYRNS HOTEL

WOODLAND, CALIFORNIA

European Plan

Headquarters for Commercial Men
First Class Grill in Connection

Mention The Live Stock and Dairy Journal When Writing to Advertisers.

The Jerseys

Pay Dividends on \$500 Per Acre Land



On the northwest coast of California there is a rainfall of from 50 to 100 inches per year. There land is worth \$500 per acre, but grade Jersey herds are paying interest and dividends on that land, averaging 400 lbs. butter fat per year.

Moral: Grade up your herd by getting a pure-bred Jersey sire from a producing dam.

Get facts about Jerseys from

THE AMERICAN JERSEY CATTLE CLUB
324 W. 23d St., New York, N. Y.

REGISTERED JERSEYS

I offer for sale a yearling son of Brown Lassie's Advocate (80045), out of Antoinette's Mona. Also two bull calves, one sired by Brown Lassie's Advocate, the other by Brown Lassie's Conqueror, and out of richly bred dams. Write for prices.

F. M. DIMOCK

R. No. 2. TURLOCK, CAL.

REGISTERED JERSEYS

Young Bulls and Helpers for sale. Sired by Interested Monplaisir and out of St. Lambert cows. Call or write for prices.

J. F. SNOVER

R. 2. CERES, CAL.

VENADERA HERD

of Registered

JERSEYS

Guy H. Miller, Prop.

MODESTO CALIFORNIA

REGISTERED JERSEYS

Two Bull Calves 8 months old, solid color. Dams have authenticated records of 490 pounds and 536 pounds butter. Their sire's dam has record of 522 pounds.

Further particulars by addressing:

D. F. CONANT.

R. 5, Box 64. MODESTO, CAL.



Hanford. Senior Yearling Heifer in Purebred Holstein-Friesian Herd, Owned by G. U. Clark, Kings County, California. This Heifer was Junior Champion at 1913 Kings County Fair.

very well, and that which I saved for grain made a good crop. I put up the Indian corn when just past the "roasting ear" stage, and the milo maize when the grain was hard, that

REGISTERED HOLSTEIN-FRIESIANS

H. B. COWAN

Box 512 MODESTO, CAL.

MOORLAND FARM HOLSTEIN-FRIESIANS

Offers for sale a splendid six-months-old Bull Calf with good A. R. O. backing.
K. W. ABBOTT, Milpitas, Cal.

REGISTERED HOLSTEIN-FRIESIANS

Increase the value of your herd by introducing the blood of the greatest producers of the breed. We offer a number of Choice Grandsons of King Segls. Also a number of Grandsons of the world's record cow, Creamelle Vale. Write or call and inspect our herd.
F. & H. STENZEL, SAN LORENZO, CAL.

CREAMCUP HERD HOLSTEIN-FRIESIAN CATTLE and O. I. C. SWINE

Bull Calves for sale from A. R. O. dame, sired by a grandson of King of the Pontiacs, also by a son of Colantha Johanna Lad.

M. M. HOLDRIDGE,
WOOD COLONY, MODESTO, CAL.

REGISTERED HOLSTEIN-FRIESIANS

Herd Headed by
Jullana King of Riverside
One of his young bulls, also one sired by Cornelia King and out of high producing dame, for sale.

B. F. ANDERSON,
ROUTE 2, MODESTO, CAL.

REGISTERED HOLSTEIN FRIESIANS

FOR SALE—A yearling grandson of the great King of the Pontiacs. Also a few younger.

WANTED—A herdman with grown-up son who can milk, to take charge of a small herd of purebred Holsteins. References required.

McALISTER & SON,
CHINO, CALIFORNIA.

Holstein-Friesian Cattle

A Few Choice Registered Bulls and
25 Choice Registered Heifers.
Prices on Application.

CHAS. JAY WELCH, Los Banos, Cal.

is, nearly ripe enough to cut. The milo maize matures much quicker than the Indian corn.

The filling of the silo is a very simple matter, the most important considerations being to put in plenty of water (there is very little danger of putting in too much water), and tramping the ensilage well, especially on the outer edge which should always be kept higher than the center. If the ensilage is not well tramped on the edge, it will settle away from the silo and leave an air space, and whenever the air comes in contact with the ensilage there is spoiled fodder.

I have a No. 9 Ohio cutter hitched to an 18-horse power gasoline engine. With this outfit, a corn binder, eleven men and four teams, I can put up from four to six tons per hour. I expect to put on two extra men next year to follow the binder and head every other row.

I feed from thirty to forty pounds of ensilage per day per cow, in the barn, and from ten to twenty pounds of hay outside. I have a bunch of hogs and chickens following the cows to pick over the droppings which contain more or less grain which would otherwise go to waste.

ALLAN THOMPSON.

Tulare County.

SANTA CLARA COUNTY HOLSTEIN COW MAKES REMARKABLE A. R. O. RECORD.

It has been left to the wonderful county of the everlasting prune to bring out the greatest seven-day A. R. O. record yet made by a California Holstein-Friesian cow. Also take heed, young breeders, this cow has been developed in a comparatively small herd, by a comparatively young man, who is using a comparatively large amount of gray matter in his breeding operations.

Mable Haskins of San Jose, a junior 4-year-old in the registered Holstein-Friesian herd owned at Moorland Farm, Milpitas, Cal., by Kenneth W. Abbott, has produced under official test in 7 days, 32,804 pounds of butter from 679.8 pounds milk. This beats all previous 7-day records in California, and according to the last Blue Book, this performance makes this cow the sixth best in her class for the whole breed.

Mr. Abbott writes the Journal that this cow was kept in a practically open shed during the week of her test, and that the weather was particularly rainy and windy, and that had he given her a little better care she would undoubtedly have made even a larger

record. She has since increased in milk flow and at the time of this writing was giving over 100 pounds per day.

She dropped a fine heifer calf sired by a son of Johanna Colantha Lad out of a daughter of Aggie Cornucopia Pauline, so it will be well to watch out for this young thing when she comes into milk.

It is not often in the art of breeding dairy cows that a young man of Mr. Abbott's age can even hope to bring out a great cow like this, and he is deserving of a great compliment.

A senior 3-year-old in Moorland herd has just made 16.78 pounds butter in 7 days with first calf.

OATS AND PEAS FOR DAIRY COWS

The Live Stock and Dairy Journal—Will you kindly inform me of the best time to seed land with oats and peas

together to secure the greatest yield of hay, the quantity of each kind of seed to use per acre, and what variety of pea would be best for this climate? What is your opinion of this mixture as feed for dairy cows?—J. S., Kern County, Cal.

Almost any time now that your land can be worked will be suitable for the seeding of your oats and peas. Canadian Golden Vine Field Pea is probably the best variety for your purpose. This variety is used extensively in Canada both for hog and dairy cow feed, and is used extensively by eastern dairymen in this country. It has a very great advantage over most of the other varieties of peas, in that it matures at the same time as the oat crop.

Forty pounds of peas per acre, and about half the usual quantity of oat seed, should result in a thick growth

MILK

1 Day 112 lbs.
7 Days 742 lbs.
30 Days 2969 lbs.
1 Year 28000 lbs.

BUTTER

7 Days 3013 lbs.
30 Days 12230 lbs.
1 Yr. 114232 lbs.

THE WORLD'S RECORD
FOR AGE

ARALIA De KOL. 12 1/2 Yrs

A Lower Butter Market Means that you must keep Better Cows

The producing ability of your herd can be materially increased through the herd sire. Sell out the boarders to the butcher and invest in a pure-bred sire whose ancestors have proven their worth through the official test. Fifty per cent of his blood in the first cross will exert an influence which will mean increased profits and pay many times his cost.

We offer young Bulls from a herd of officially tested cows that are unexcelled in the West, and from sires whose breeding would be difficult to improve upon. We are having many calls for serviceable Bulls, and would suggest that you place your order now for a Bull for use next fall and winter, as they will be scarce at that time.

A promising son of King Segls Pontiac Emperor is offered from a heifer that is now on test and will exceed 450 pounds of butter with first calf. She is an excellent type and as an individual the calf leaves nothing to be desired. Born September, 1913. Price, \$175.00. The sire of the calf is one of the best that the breed has produced. His blood lines are producing the world's greatest Cows. Other well-bred sons of this sire are offered at \$150 to \$250.

A splendid son of Lorena Korndyke, the Grand Champion of 1913, and from a good daughter of the proven sire, Jullana King of Riverside. She is now on test and is expected to exceed 400 pounds of butter in the year, at three years of age. Calf born September 17, 1913. Light in color, good individually. Price, \$150.00.

Something extraordinary to offer to breeders of registered cattle.
Write or call on us.

A. W. Morris & Sons Corporation

WOODLAND, CALIFORNIA

Registered Holstein-Friesians

We offer for sale six young bulls ready for service. These are all sired by Riverside Prince and out of our greatest producing cows. Any one of them is a good one to place at the head of a dairy or breeding herd. Write for prices and pedigrees.

J. H. HARLAN & CO.,

WOODLAND, CALIFORNIA.

We Offer Two Grandsons of the Great Sire HENGERSVELD DeKOL

THE SIRE OF MORE RECORD DAUGHTERS THAN ANY OTHER BULL.

The Calves Were Both Born in December, 1912.
Prices and Photos on Request.

WE ALSO HAVE OTHER BULLS RANGING FROM 3 TO 11 MONTHS.
NO HEIFERS FOR SALE AT PRESENT.

THE McCLOUD RIVER LUMBER COMPANY

McCLOUD, CALIFORNIA

of vine and stalk of fine quality. This crop can be fed as a greed feed, or allowed to develop to the hay stage, or allowed to fully mature and used as a grain ration. For hay it should be harvested when just past the milk and in the dough stage.

We have no local data upon which to base a comparative valuation of this crop as a feed in California, but it is very highly esteemed by successful dairymen in the Eastern States.

AN OPPORTUNITY TO BUY REGISTERED JERSEYS.

Elsewhere in this issue there is an announcement of a consignment sale of Jerseys to be held on the G. O. Hillier ranch at Modesto, California, on April 2d.

There are a large number of very desirable females included in this consignment, including the entire herd owned by G. O. Hillier. This will afford buyers an opportunity to secure some very richly bred Jerseys, and is undoubtedly the largest lot of this stock which will be offered at one sale in California for a long time to come.

The sale will also include a number of noted bulls, among them King Polo of Bleak House, one of the richest bred butter bulls now on the coast.

Gertie's Son has also been consigned to this sale, and he is too well known to coast breeders to need further introduction.

Mr. Hillier states that this sale will be made positively without reserve, and that his guarantee will go with every animal that leaves the sales ring. This certainly will assure prospective buyers of fair dealing in this sale, which will be conducted by the well known auctioneer, Ben A. Rhoades of Los Angeles.

JANUARY TESTS IN MORRIS HOLSTEIN HERD

A. W. Morris & Sons Corporation, Woodland, Cal., write the Journal:

While we have nothing extraordinary in the way of records to mention, aside from those reported in last month's Journal, official testing has been in progress continuously. Twenty-five good ones are due in February, including some of the best heifers that we have bred, and all will be officially tested, after which they will be continued on semi-official yearly test. With as many more in March and April, it will be the busiest test season that we have had and some good records are expected.

Among the cows tested during the past month, the most conspicuous is likely Riverside Sadie Burke, the oldest daughter of Riverside Sadie De Kol Burke. The first seven days of her test shows a production of 27.50 pounds of butter. She has only just started and a considerable gain is expected. Mary King of Riverside, a half sister, started test at the same time and 26.45 pounds of butter has been recorded in her first seven days. These two cows are half sisters to the De Kol of Valley Meads, Hiske of Riverside and Aralia De Kol 3d, mentioned in last month's report. Another daughter of Riverside Sadie De Kol Burke is due next month and present indications are that something will be doing.

Anna Bergsma De Kol, after making



Countess Fantine. A Prominent Guernsey Dam. A. R. at 3½ years, 582.33 pounds butter fat in one year. Her Son, Glenwood of Rosendale, is in Pacific Herd, owned by C. G. Rasmussen, Leta, Cal.

the nice record of 623 lbs. fat in a year as junior four-year-old, dropped a large pair of twins, and without being dry has completed a test of 22.63 pounds butter fat from 500.6 pounds of milk in a week. Billy Prilly 2d, a three-year-old heifer, has made 21.95 pounds of butter in seven days. The dam of this heifer distinguished herself several years ago by yielding 601 pounds of butter fat in a year at 2 years 3 months of age, which was at that time the record for the breed.

It is gratifying to be able to report cows capable of such production, but the cow that displays the ability to continue this work week after week and year after year is most worthy of admiration. An outstanding individual in this class is Tilly Alcartra. She has now been on official test for 70 days, at the end of which time she is producing 100 pounds of milk daily and fat sufficient to make four pounds of butter. So uniform is her production that it is quite a difficult matter to select her best seven or thirty days. A seven-day record of 29.16 pounds was reported last month and we now find that, beginning 62 days after calving, she has a week's production of 29.25 pounds butter. As near as we are able to determine, her best month's production begins 40 days from calving, after which time she has made 122.55 pounds butter from 3066.4 pounds of milk in 30 days. Beginning 15 days from calving, Tilly Alcartra has produced 604.82 pounds of milk and 241.3 pounds of butter in sixty days. It will be noted that this cow has yielded as much milk and butter in 60 days as many of the so-called dairy cows give in a year. As a two-year-old, Tilly gave 556.2 pounds butter in 9½ months, calving again before her year's test was completed. With second calf, as a junior three-year-old, she established a new mark in her class by producing 841.20 pounds of butter from 21,421 pounds of milk, leading the junior threes in both milk and butter. She is now in test with her third calf and, barring accident, we expect to see her cross the 1000-pound mark. As she has not as yet reached maturity, she will be heard from another year. One of the most valuable young things in the herd is a heifer calf from Tilly Alcartra and sired by the splendid young son of Riverside Sadie De Kol Burke. Its two nearest dams already average over 25,000 pounds of milk, and when the dam's present record is completed will have an average of over 1000 pounds of butter for the two.

The three-year-old heifer, Charlotte Walker 2d is also showing great persistency. Her seven-day record of 23.20 lbs., as reported last month, has been increased, after 60 days' milking, to 23.94 pounds in a week, and beginning 42 days after calving, a production of 2191.7 pounds of milk and 99.37 pounds of butter is recorded in 30 consecutive days. In 60 days she has given 4391.5 pounds of milk and 191.91 pounds of butter, and is still gaining. The dam of Charlotte Walker 2d made the splendid record of 21.42 pounds of butter in 7 days at 2 years and 2 months of age, and in the year gave 16,000 pounds of milk and 704 pounds of butter. We have a promising daughter of Charlotte Walker 2d and sired by the famous King of the Pontiacs.

The cows on semi-official yearly test are working under difficulties during the past six weeks of storm and flood, but some exceptional records are being made. One of the most noteworthy among the yearly cows is Miss Blaney, who has 630 pounds of fat to her credit in 9½ months. At this time she is doing two pounds of fat daily and everything would indicate 1000 pounds of butter or more for the year. This cow was exhibited at the State Fair in September, which cut some figure in her year's work.

The demand for well bred young sires seems to be on the increase, and we are

unable to fill our orders for serviceable bulls. Many are looking ahead and buying calves. These are being used to improve grade herds. Lower prices for butter will necessitate better cows, and these are only to be had through the use of good pure-bred sires.

Have the following sales to report since the last issue:

Emperor Netherland Segis, to O. E. Martinelli, Point Reyes Sta., Cal.

Tula Pieterje Ignaro, A. F. Scheldecke, Blacks, Cal.

Creamcup Wase Cornucopia and Creamcup Pontiac De Kol, to A. Meister, Sacramento, Cal.

Creamcup Madrigal Cornucopia, to H. A. Kricke, Crows Landing, Cal.

Prince Piebe Walker, to H. E. Goodwin, Dos Palos, Cal.

Prince Gelsche Walker 5th, to W. L. Morris, Yolo, Cal.

Lorena Netherland Korndyke, to J. B. Archer, Madison, Cal.

Gelsche Riverside Walker, to J. T. Gilman, Anderson, Cal.

Lorena Burke Korndyke, to Chas. G. Keehner, Hickman, Cal.

Lorena Kapple Korndyke and Prince Gelsche Walker 4th to Otis, McAllister & Co., San Francisco, Cal., for export to Central America.

MORE DAIRY HONORS FOR SANTA CLARA COUNTY

In another column we have remarked upon the fact that Santa Clara County has brought out the highest 7-day A. R. O. record in the State of California for the Holstein-Friesian breed.

That same county has also brought out the highest testing cow of the Jersey breed, covering an authenticated test of one year. The honor of developing this cow belongs to Jersey Queen Stock Farm, the merit of which herd has been commented upon in the Journal before.

This new California record was established by the senior 3-year-old, Victor's Lady Queen, with a yield for one year of 608 pounds 15.1 ounces butter fat, equal to 716 pounds 6 ounces 85¼ butter, from 10,830 pounds 1.6 ounces milk.

Sultan's Golden Blue Bell finished her year with 525 pounds 8.2 ounces butter fat from 8979 pounds 1.6 ounces milk.

Victor's Hope made 451 pounds 14.9 ounces butter fat from 8077 pounds 11.2 ounces milk.

Sultan's Silver Beauty finished her year with 393 pounds .87 ounces butter fat from 7561 pounds 8 ounces milk.

These are very commendable records, and the mark set by Jersey Queen Farm Jerseys has raised a new standard to be the goal of California Jersey breeders. The value of this kind of breeding and development through authenticated tests, to the dairy interests of the State cannot be too highly esteemed, and we hope shortly to be able to publish still greater Jersey achievements in the Journal.

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Weighing and Testing Results in Better Dairying

(Written for The Live Stock and Dairy Journal by Edgar S. Willard.)

With the continued high price of butter fat and of dairy stock, there is an ever increasing interest in dairying, which shows itself in several ways. One of these is the large number of new herds being started throughout the State and another is the building up of herds already established, both with regard to numbers and production. Still another indication of this interest in dairying is the rapid spread in the last few years of butter fat testing, both officially under the rules of the various breed organizations and unofficially through cow testing associations.

As the cost of enlarging a herd, either by the purchase of pure-bred or grade stock, is quite considerable, the average dairyman can do this but slowly, and must therefore look to an increase in the production of his herd for immediate increase in his income. To accomplish this many things are necessary, among which, however, two things are of the greatest importance, viz: the use of a pure-bred sire from tested ancestry and the continued use of the milk scales and Babcock tester. Is is of the second of these that I wish to speak especially.

To those who have done much testing, no urging is needed to continue the work, results speaking for themselves, but among those who have done no testing at all, or but little, there seems to be only a vague idea as to its worth. Some, in fact, actually doubt its practical value and consider it merely as a fad to be practiced only by those who carry on dairying as a hobby. Perhaps the most common reason for neglecting this important end of the dairy business is the very general belief among dairymen that they can tell which are their paying cows without the use of the milk scales and tester.

Now, as a matter of fact, even our very best dairymen and stock judges cannot tell even approximately what a cow produces without testing, as any of them will admit after having continued a test for any length of time. Of course they can usually tell a good cow from a really poor one, but when it comes to picking out the medium producers, the cow that is making just a little profit from the cow which is losing a little money, all authorities agree that it cannot be done. The question usually raised in this connection is: Cannot a dairyman estimate how much milk is in a bucket, then set a little of the milk to see how much cream raises? The objections to this procedure, however, are several. In the first place, it is very difficult to judge accurately the amount of milk in a bucket, or cream on a sample, by eye, and in the second place even the most careful estimate may be entirely misleading. Different cows let down their milk with different degrees of ease, so that there will be more foam on the milk from one than from another; also the dairyman feels more pleasantly disposed toward an easy milking cow and is therefore apt to think her better than some hard milking cow which may be in reality giving more or richer milk. Then, as to telling the amount of butter fat in milk by the amount of cream which rises on it, anyone who tries this will probably be badly fooled. The cream from the milk of different cows will rise at different rates and to varying degrees, so that after a very few hours one sample may have a generous layer of cream when perhaps another sample, which is equally rich in butter fat, may have but little cream on it. This is particularly true with milk from cows of different breeds—Holstein cream, for instance, rising but slowly and often incompletely due to its very small fat particles, while Jersey rises

more rapidly and completely, due to its larger fat particles.

Another way in which dairymen often get misleading ideas as to what their cows are doing for them, is by taking a sample of some cow's milk to the creamery and having it tested, not regularly every month, but only once in a lactation period, or perhaps only once in a few years. The reason this is so misleading is because of the wide variation in test between the milk of different milkings from the same cow. Usually this variation is not over three-quarters of a per cent (though that will be enough to make a considerable difference if applied to a large amount of milk), but not infrequently the variation will be extreme. A difference of 2 per cent from one milking to the next is often encountered, and I have seen cases where a cow would vary 5 per cent between night and morning, though such variations are rare.

Many things cause these fluctuations, such as a sudden change in weather, the time of day, change in feed, an attack of indigestion, a late or early milking; in fact, any deviation from the customary routine is quickly shown in a cow's test. Besides these sudden variations there are also the gradual ones due to the advance in the lactation period, the age of the cow, etc. An accurate or even approximate idea of a cow's normal test can therefore only be obtained from the average of many milkings, and these must be sampled at different times throughout the year.

Still another factor which enters into the question is the varying degree of persistency shown by different cows, some milking through a greater part of the year than others. Probably few who have not tested their herd systematically, realize what a difference in the total production of butter fat it makes whether or not a cow is a persistent milker. Even those who do a considerable amount of testing are apt to overlook this, the large amount of fat produced in the first few months of a year blinding them to a rapid falling off at the end of the year.

A few figures will, perhaps, make these points more clearly. Let us take, for example, the production of two ordinary grade cows, the kind that are neither so good that they can be depended on to bring in a safe margin of profit, nor so poor that they are known to be kept at a loss. The first one, which I will call A, is a cow which gives a pretty good flow of ordinary milk while fresh, but dries up at the end of nine months. The second one, called B, gives only a little more than half as much to start with, but milks three months longer and tests a per cent higher.

Average Production of A by Periods of Three Months.

5 gals. daily (42 lbs.) testing.....	3.6%
Total butter fat produced.....	135.9 lbs.
3 gals. daily (25 lbs.) testing.....	3.8%
Total butter fat produced.....	85.5 lbs.
1 gal. daily (8.3 lbs.) testing.....	3.9%
Total butter fat produced.....	28.8 lbs.

Dry.
Total production of butter fat
for year 250 lbs.

Average Production of B by Periods of Three Months.

3 gals. daily (25 lbs.) testing.....	4.6%
Total butter fat produced.....	103.5 lbs.
2½ gals. daily (21 lbs.) testing.....	4.7%
Total butter fat produced.....	88.2 lbs.
2 gals. daily (17 lbs.) testing.....	4.8%
Total butter fat produced.....	72.9 lbs.
1 gal. daily (8.3 lbs.) testing.....	4.9%
Total butter fat produced.....	36.0 lbs.
Total production of butter fat for year 300 lbs.	

(Decimal fractions dropped to keep numbers in round figures.)

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Gathered Cream Creamery Butter. The highest score in the gathered cream factory-made butter class was given R. O. Brye, of the Readstown Creamery Co., Readstown, Wis., this prize-winning butter being made from the cream of farm patrons all using De Laval Separators.

Farm Dairy Butter. The highest score in this class was awarded to Mrs. D. H. Turnbull, of Monmouth, Ill., whose family has been using De Laval Cream Separators for over twenty years.

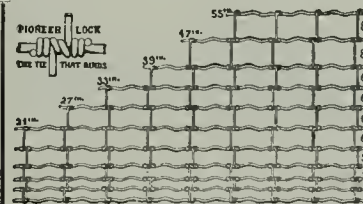
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and milking a cow (a figure pretty generally accepted in this State), then A gave 50 lbs. of fat for her year's profit while B gave 100 lbs. fat for hers. From the standpoint of net profit, therefore, B is just twice as valuable an animal as A, though I dare say that there are few dairymen who would be willing to pay much or any more for a cow that they knew milked only three gallons a day when fresh as against one which milked five gallons a day. Without regular weighing and testing, even a much greater difference in production than this would usually go entirely unnoticed.

It is easily seen by any who give the matter serious thought that it pays to know definitely what the individuals in a herd are producing. Therefore when our dairymen and breeders come to realize that they can gain this knowledge only by the regular use of the milk scales and Babcock tester, the keeping of individual records will become as much a part of dairying as the milking of the cows. Cow testing associations will be formed in every dairy community for both grade and official testing. Herds of heavy producing grades and record-making purebreds will displace the present large percentage of inferior stock and dairying will take the advanced place it deserves in the ranks of profitable agriculture.

PACIFIC COAST HAS WORLD'S RECORD AYRSHIRES.

While the Ayrshire has long been recognized as a most excellent dairy cow, and as a breed, peculiarly adapted to perform profitably under conditions to which other dairy breeds do not readily adapt themselves, yet it is only within a few years that the latent possibilities of high milk and butter fat production of the Ayrshire have been brought out and established authoritatively by means of the official test. Progress has been rapid, and within the past few years a few breeders have succeeded in placing Ayrshires in the very front rank of dairy breeds, with very strong indications that some noteworthy future developments may be expected.

We have here on the Pacific Coast one of the best herds of Ayrshires in America, viewed either from the standpoint of show-ring form or from the standpoint of dairy production. This herd is owned by Mr. J. W. Clise, Redmond, Washington, which is just out of Seattle. The herd contains 275 head of registered animals, and while Ayrshire type is never lost sight of in the breeding operations at Willowmoor Farms, yet the great development of the herd is along the line of dairy production. Up to the present time, three World's champion cows have been brought out in Willowmoor herd, two of which were developed there, and the third and greatest, Lily of Willowmoor, was bred and developed there.

The first world's record made at Willowmoor Farms was with the cow Netherhall Brownie 9th, an imported cow, that made an Advanced Registry record for yearly production of 18,110 pounds of milk, 820.91 pounds butter fat.

The next record made in the herd was with Gerranton Dora 2nd, another cow imported and developed by Willowmoor Farms. Her yearly A. R. production was 21,025 pounds milk, 803.96 pounds fat. The third and greatest Willowmoor record was made with Lily of Willowmoor, a cow bred and developed at Willowmoor Farms. She set the world's record for the Ayrshire breed at 22,106 pounds milk, 888.70 pounds butter fat in one year.

There are many more cows of high production in the herd, and possibly one of the strongest indications of the masterful idea of constructive breeding which directs the development of this herd is found in the fact that the herd contains all the living

progeny of its three greatest cows. Willowmoor Robin Hood, one of the great sires at the head of the herd is the only son of Netherhall Brownie 9th, their first record breaker.

The senior herd sire is Beuchan Peter Pan, an imported bull of Advanced Registry. Before being imported this bull was Grand Champion over Great Britain, and since being imported this bull was Grand Champion of our own National Dairy Show. This bull is unquestionably one of the greatest specimens of the Ayrshire sire in this country.

The next herd sire, Willowmoor Robin Hood, is also a remarkably fine individual, and his get have already established him as a bull of the highest degree of prepotency. The winnings made by his get at the National Dairy Show were the sensation of the Ayrshire classes a year ago.

Willowmoor Sentinel, a son of Gerranton Dora 2nd, is the third herd sire, and is an individual of high excellence, backed by great production.

The fourth herd sire is Morton Mains Queechy, out of Morton Mains Emathla, one of the best Ayrshire cows in Scotland.

While the show ring performances of Willowmoor herd have been little short of sensational, yet an examination of the present makeup of the herd discloses an immense capacity for milk and butter fat production, and the presence of such a herd on the Pacific Coast, when considered as a source of supply of breeding stock, is of a very great value to our dairy interests.

A PROMINENT GUERNSEY DAM.

In another column we reproduce a picture of the Guernsey cow Countess Fantine 14,730, A. R. 344. At two and a half years she made an A. R. record of 9399.6 pounds milk, 502.59 pounds of fat, and at three and a half years produced 11,363.3 pounds milk, 582.33 pounds fat. Two of her sons are prominent in eastern Guernsey circles, Knight of Gold having twice first in his class at Wisconsin State Fair (and there are some Guernseys in Wisconsin) and Knight Errant that is now in service in Mr. C. L. Hill's herd. Another of her sons, Glenwood of Rosendale, is now in Pacific Guernsey herd, owned by Mr. C. S. Rasmussen, Loleta, Calif. Pacific herd contains a large number of daughters of Glenwood of Rosendale, and these have been mated with Questa's May King 20,346, a grandson of Imp. King of the May, one of the greatest sires of the Guernsey breed. Out of the first five dams mated to King of the May, which dams had an average A. R. record of 7,833.52 pounds of milk, 420.69 pounds fat at two and a half years of age, he got five daughters that averaged 10,584.8 pounds of milk, 572.25 pounds fat as two year olds. The dam of King of the May is Imp. Itchen Daisy 3d, A. R. Milk 13,636.8 pounds, fat 714 pounds.

The dam of Questa's May King is Questa Bloom 2nd, first prize and Grand Champion Guernsey cow at California State Fair 1910, and now owned by the State at State Farm at Davis. Her dam is Questa Bloom, sister of Dolly Bloom, A. R. milk 17,297.5 pounds, fat 836.21 pounds, and dam of Dolly Dimple, A. R. milk 14,009.13 pounds, fat 703.36 pounds at two years of age, milk 18,458.8 pounds, fat 906.89 pounds at three and a half years of age.

While Mr. Rasmussen is offering Glenwood of Rosendale for sale owing to the large number of his daughters now in Pacific Herd, this good bull will leave behind him in his daughters a strong producing blood, which, as shown above, has been mated with another exceptionally strong blood line, and this herd will have no lack of A. R. breeding behind its members.

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7	7:10a	8:45a	9:00a
13	9:10a	10:50a	11:05a
17	10:15a	11:45a	12:05p
23	12:15p	1:30p	2:05p
29	2:10p	3:45p	4:00p
35	4:10p	5:50p	6:05p
41	6:20p	7:53p	8:10p
47	9:00p	10:34p	10:55p

NORTHBOUND.

No.	Leave Stockton	Leave Lodi	Arrive Sac'mto
4	6:00a	6:00a	7:55a
10	7:45a	8:00a	9:35a
16	10:00a	10:05a	11:45a
22	12:05p	12:20p	1:55p
28	1:45p	2:05p	3:35p
34	3:45p	4:05p	6:36p
40	5:45p	6:05p	7:35p
46	8:30p	8:40p	10:20p

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A. M.—6:15, 8:05, 7:00, 8:00, 9:00, 10:05, 11:05.
P. M.—12:15, 1:10, 2:00, 3:00, 4:05, 6:05, 6:06, 7:10, 8:30, 9:55, 11:20.
*Daily except Sunday.

Trains Leave Lodi.

A. M.—12:05, *6:05, 7:00, 8:00, 9:00, 10:05, 11:05p.
P. M.—12:20, 1:00, 2:05, 3:00, 4:05, 6:00, 6:05, 7:00, 8:40, 9:10, 10:37.
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The Kitchen Garden for the Ranch

As a general rule the Kitchen Garden at the country ranch house receives but little attention. There is no good reason why it should be so. The only reason given usually is, that the farmer only cares to give his attention to his acres. He much rather would handle implements such as the plough, the harrow, the roller, etc. The idea of using the spade, rake or hoe is distasteful to him and he never gives himself the chance to find out his mistake.

The rancher's wife, however, always bemoans the fact that she has not a little plot of vegetable garden from which to gather fresh vegetables for each day's requirements. The vegetable man never has what is wanted, his selection often is poor, and the vegetables do not look fresh. Maybe the house is out of the rounds of the vender and then the "fresh" vegetables must be had from the "cans."

No one will question the superior quality of fresh vegetables. A small vegetable garden is a great boon and a few rods can be made to produce sufficient for the family's needs if a little thought is given to selection of varieties and planting. To a great many people a cabbage is just a cabbage. They do not realize that there are cabbages and cabbages and that in every class of vegetables there are good varieties and poor ones.

The time of year is approaching for the sowing of seeds and it surely will be worth while for the rancher to plan on having a vegetable garden. He ought to have a little consideration for the one who needs most think of dinner long before he does.

The kitchen garden should be as near the rear of the house as possible so that the good wife will not have to travel far for her needs and also so that it will be within easy access when there is some little hoeing or gardening to do in the afternoon after indoor duties have done. The rancher's wife does not look on the work around the garden as "labor." It is a chance for a little healthy outdoor exercise and the thought of fresh vegetables is encouraging.

When the spot for the kitchen garden has been decided upon some good farmyard or stable manure must be hauled on and liberally scattered on the surface. If it has not been convenient to plough the piece it should be spaded over the full depth of a good spade mixing in the manure as the ground is turned over. The surface should be left rough until the time for planting has come. It is beneficial to let the air and rain operate on the roughly dug land. On the other hand if planting is to be proceeded with right away the soil should be broken down as spading proceeds. As soon as it has been decided to have a garden the rancher wants to know what his wife wishes to plant. She knows what she wants but she wants the best in each case. The Seedsmen's Catalogue is produced but the list is bewildering. Not having seen the various varieties it is hard to say which is best. Many are good, yet one or two may be inferior, yet listed because of the man who wants quantity with no thought to quality. A list of the best varieties with a few cultural notes will be welcomed by all planters at this season of the year.

Beans are popular with everyone and a big selection is always offered by the seedsmen. In the dwarf green podded section Morse's selection of Stringless Green Pod is exceedingly fine. For quality there is none better. For a wax podded dwarf bean Morse's Golden Wax easily leads. Michigan White Wax is also good. As a pole bean Kentucky Wonder is hard to beat. Its splendid cropping qualities and quality are well known.

Lima beans can be grown well in

California and used green shelled. Fordhook Bush is a splendid variety. The quality is all that could be desired and where it is possible to obtain this variety no other is worth considering.

Bush beans should be sown as soon as all danger of frost is over. Sowings at intervals of two weeks will give a good succession. Sow in rows eighteen inches apart, one pound will sow a row sixty feet long, plant the seed one inch deep. Bush Lima Beans can be treated in like manner to bush beans.

Pole beans can be sown about the same time as bush beans. Plant in hills about three feet apart and to each hill put a stout stake from six to eight feet long. Sow seven or eight seeds to each hill but thin out the plants to three strong ones.

Beets are always a popular vegetable and is certainly much better when gathered fresh. One of the very best table beets is Morse's Improved Blood Turnip. The color is rich and the quality excellent. Those preferring a large beet will find Detroit Dark Red good. Sow in rows twelve inches apart. One ounce will sow fifty feet. Beet can be sown any time in Spring. Thin out the young plants four inches apart.

Cabbage can be grown by every one and anywhere but a careful selection of varieties will be profitable. For an early cabbage Copenhagen Market is easily best. The heads are flat, good size and very tight and crisp. Early Winningstadt is next. It forms a pointed head but makes a remarkably tight head. The best second early cabbage is Danish Roundhead. This variety forms good-sized solid ball-shaped heads. The quality is all that could be wished for. Morse's Selected Early Flat Dutch is an excellent second early cabbage. Good late or Winter cabbage are Danish Ball Head and Burpee's Surehead. Sow cabbage in short rows of two or three feet or sow a small patch three or four feet square broadcast. When the plants get about six inches tall transplant them to permanent quarters. Rows fifteen to eighteen inches apart, according to variety, are best and put the plants fifteen to eighteen inches apart in the rows. Cabbage can be sown almost any time of the year. March is a good time to sow for Summer and Fall use. June and July for late Fall and Winter use. Brussels sprouts and cauliflower require the same cultural treatment as cabbage.

Carrots are very handy at all times to be within reach of the kitchen and there are several excellent table varieties. The small French Forcing Carrot is well known and is excellent for early use. Scarlet Horn is a splendid short variety. Oxheart and Chantenay are two good carrots. Those preferring a longer carrot will be pleased with Denver's Half Long Carrots can be sown any time from January onwards till Fall. One ounce will sow about one hundred feet. Plant one-half inch deep in rows ten inches apart. Thin out plants according to variety, from two to four inches apart.

Cauliflower is an excellent vegetable and easily grown. Treat in same manner as cabbage. Early Snowball is the very finest variety. The heads are medium sized, very tight and very white in color. California Wonder is also very fine.

Corn, the most popular of all vegetables, should be given room in every kitchen garden. Everyone knows the advantages of having fresh corn gathered at the right time. For early corn Crows's Early, Early Red Cob Cory and Stabler's Early are very good. As a late corn Morse's Golden Cream is easily first. The flavor of this excellent variety is decidedly fine and places it above all others. It is very prolific.

DEAD SQUIRRELS DEAD GOPHERS BETTER CROPS

KILMOL SQUIRLGOPHENE

used with the U. S. SQUIRREL DESTRUCTOR, will kill every squirrel on your farm and thus end their crop destruction.

No Experiment KILMOL is thoroughly practical. These concerns, all large land owners, are using KILMOL in great quantities: Natomas Consoli-

dated; Santa Fe Ry.; Southern Pacific Ry.; Miller & Lux; Spring Valley Water Co.; Barton Vineyard Co.; Calif. Hawaiian Sugar Refining Co.; Calif. Wine Association; Crocker-Huffman Land & Water Co.; Italian-Swiss Colony; Leland Stanford University; Simon Newman Co.; Peoples Water Co.; and many others too numerous to mention.

Government Inspectors are using KILMOL in the many sections of California, which is the best recommendation possible.

One Cent is the cost for material for killing each squirrel; the average cost for labor and material being from 18 to 28 cents an acre.

KILMOL method is the quickest method known; all the time necessary to treat each burrow being **ONE MINUTE**

Every Day In the year, wet or dry, KILMOL can be used. Weather makes no difference.

100% Efficient The squirrel cannot escape. Failure is impossible.

FREE It costs you nothing to learn all about this wonderful method—the best ever discovered for killing squirrels and gophers. Let me prove these statements. Send today for particulars.

HERBERT F. DUGAN, Dept. H5

1170 Sutter St., San Francisco

5 gallons Kimol today is worth \$100.00 in crops tomorrow

I can also supply you with Strychnine or Barley poisoned according to Government formula. Write for prices.



The Best Pipe on the Market

That's a pretty big claim but we can prove it. Just write us to-day and we'll send you the reasons why this pipe is the strongest and most economical one on the market.

"Western"

Surface Irrigation Pipe is riveted instead of lock-seamed. The rivets give strength, and greatly reduce the possibility of leakage. Once you have used "Western" Pipe you'll wonder how you ever did without it—but write us now and we'll explain in detail.

We make Riveted Pipe, Riveted Well Casing, Steel Tanks and Irrigation Supplies.

Western Pipe and Steel Co. of California

440 Market St., San Francisco 1754 N. Broadway, Los Angeles
Branches: Fresno, Taft and Sacramento

POLAND CHINAS

POLAND CHINA SWINE

I have for sale pigs of both sexes sired by my boar, Great Prospect (57949) out of sows sired by A. Wonder. For prices write or call.

BROWNING STOCK FARM, WOODLAND, CALIFORNIA.
W. H. BROWNING, Prop.

REGISTERED, PUREBRED

POLAND-CHINA SWINE



Herd headed by Designer (160363), champion boar at Oregon State Fair, 1911. Seven champion crosses close up in pedigree. Best herd hog I have seen in West. I have sows as well bred as Designer, with six and seven champion crosses close up. All farrow large litters. I have not had hog cholera in my herd for thirty years. A lot of fall pigs to sell at \$20 to \$30. (Registry free to purchaser.)

S. F. WILLIAMS

PHONE 818. R. 4. CANA, CAL.

REGISTERED

POLAND CHINA SWINE

PRIZE WINNERS

Finest Stock in the State from \$30 up

I have for sale a few very fine Young Boars sired by Gold Coin, Master Banker and Wonderful Victor. There is no better blood in the world.

M. BASSETT, Breeder

HANFORD, CAL.

Poland Chinas Iowa Wonder, son of A Wonder, heads herd. His daughters are bred to a stylish son of Banker's Model. These Pigs sell quickly, and it would be well to place orders for Spring Pigs now.
N. HAUCK, Alton, Humboldt Co., Calif.

Knob Hill Stock Farm

REGISTERED POLAND CHINA SWINE

I offer young stock of both sexes out of prize winning stock. Call and see my herd or write for prices.

A. M. HENRY, FARMINGTON, CAL.

Glenview Ranch

LARGE TYPE, REGISTERED

POLAND CHINAS

First Premium Boar at Riverside County Fair for sale at reasonable price. Can't use him longer.

CHAS. R. HANNA,

RIVERSIDE, CAL.

University of Nevada

RENO, NEVADA

Breeders of Registered

PERCHERON

HORSES

JERSEY,
HOLSTEIN-FRIESIAN,
ABERDEEN ANGUS,
HEREFORD

CATTLE

SHROPSHIRE,
HAMPSHIRE,
SOUTHDOWN
DORSET HORNED,
RAMBOUILLET,
CHEVIOT

SHEEP

BERKSHIRE,
POLAND CHINA

HOGS

Correspondence Solicited

fallen from 4,600,000 in 1908 to 4,100,000 in 1912. During same period Canada's exports of cattle diminished from 151,000 to 61,500, while her exports of beef fell from 2,250,000 pounds to 948,000 pounds. Canada's cattle were shipped mainly to the United States, while her beef is sold in the United Kingdom. The number of head of all kinds of live stock in Canada is about the same per capita as in the United States—namely, one and three-fourths. The conditions in Canada are favorable for the enlargement of the live stock industry, but not any better than in this country. Western Canada has been settling up very fast, the settlers are raising grain and other crops—the same as in the north-western part of the United States. That accounts for the decrease in live stock there, as it does in this country. Owing to the drouth in Eastern Canada last year, there was heavy movement of feeders into this country immediately after cattle went on the free list. That was exceptional, and not likely to be repeated in many years. The probability is that in the future the United States will supply Canada with about as much live stock and meat products as she will furnish to us. The removal of the tariff has resulted in an increase in the price of live stock in Canada, as I predicted would be the case, and Canada is already protesting against the increase in the price of meat food products.

Mexico.

Ever since the beginning of the revolution in Mexico, owners who were able to gather and ship their cattle have been sending them to the United States. The importation of cattle from Mexico for 1913, will exceed 300,000 head—the largest number in our history. Many of these cattle paid not only an import duty to the United States, but an export duty to the federal government in Mexico, and sometimes tribute to the revolutionists as well. Mexico has a population of 15,000,000, and is estimated to have between 6,000,000 and 7,000,000 cattle, 4,000,000 sheep and 750,000 swine—less than one meat animal per capita. There is an immense territory in

Mexico available for producing cattle, and, with stable government conditions that country can be relied on to supply a large number of unfinished, or stocker, cattle. When the revolution is settled, it will take several years for normal conditions to be restored, and until then we can not reasonably expect to receive as many cattle annually as were shipped here last year. After the war there will be a keen demand for feeding stock in order to build up the herds to a better standard and this country will probably be called upon to supply that demand. The removal of duty on live stock will not have the slightest effect toward increasing our imports of cattle from Mexico, or reducing prices here. Her surplus supply would have continued to come here and paid the former duty. Now that the duty has been removed it will be absorbed by the cattle owners of Mexico; or, what is more likely, the government of Mexico will retain the present export duty. Thus the placing of live stock on the free list will not have any effect on the price of Mexican cattle in this country.

Argentina.

Argentina, with a population of about 7,000,000, has one-half as many cattle as the United States, 29,000,000 more sheep, and only 3,000,000 swine, as against our supply of 60,000,000 swine. For each inhabitant there are about four cattle, and including all meat animals, about seventeen head, compared with one and three-fourths for each person in this country. Argentina now exports more beef than all the other nations combined. For 1912 her export of meat products, mostly frozen meat, amounted to approximately 1,000,000,000 pounds. In 1911 she exported 261,000 head of live cattle, and 105,000 head of sheep. It is more than likely that her exports of live cattle will be discontinued on account of the foot-and-mouth disease. Prices for live stock in Argentina have practically doubled within recent years, and this advance has attracted to the block all classes of cattle.

Australia.

Next to Argentina, Australia has the largest surplus of meat. That coun-

For Your Hogs

DIGESTER TANKAGE

Digester Tankage develops bone and muscle in your pigs and **MAKES THEM GROW**. It fortifies and strengthens the system against attacks of disease germs so that Tankage-fed swine seldom suffer from epidemics. It imparts such fit and finish to "show" swine and market hogs that it never fails to develop blue ribbon winners in the show ring and toppers in the market.

As a balancer in making up the ideal ration it is without a rival.

For particulars and prices, address

Western Meat Company

ANIMAL FOOD DEPT.

SAN FRANCISCO, CALIF.

Mention The Live Stock and Dairy Journal When Writing to Advertisers.

Bright Outlook For Meat Producing Industry

Address by H. A. Jastro, President National Live Stock Association, at meeting of California Live Stock Breeders' Association, San Francisco, January 10th.

I do not deem it essential to make any extended remarks about the conditions prevailing in the live stock industry in this country, for the simple reason that they can be affected adversely only by an over-supply in those foreign countries that are supposed to have a surplus of meat food products.

In other words, if the surplus in foreign countries becomes too great to be absorbed readily by England, naturally their products will be attracted to the United States by free trade, but if similar results follow in the live stock industry, as was the case when hides were put on the free list, then we have nothing to fear from foreign competition in our line,

because, as you well know, immediately after hides were declared free, so far from attracting foreign hides the exact opposite was the result, for the reason that the price of the foreign hide was raised, to prevent those countries from being drained of their theretofore cheap hides into our country.

Even conceding that prices in foreign countries do not advance, which is a remote possibility, the only question to be considered is the condition of the live stock industry in the surplus countries, and I can do no better than to enumerate some statistics, which I trust will not prove too dry to interest those present, as I believe they will dispel some of the forebodings of many of the high-tariff pessimists now engaged in the live stock business.

Canada.

The number of beef cattle in the Dominion of Canada has gradually

try has about 12,000,000 cattle, 83,000,000 sheep and 850,000 swine. Her population is about 3,800,000, which gives an average of three cattle, and twenty-five meat-food animals of all kinds per capita. The latest available statistics show that Australia exported, during the year ending June 30, 1913, about 350,000,000 pounds of frozen beef, mutton and lamb. Her exports of meat products average about one-third of those of Argentina. Up to the present time practically all of the exports of meat from Australia have been frozen. They are not preparing to handle chilled meat. Under favorable conditions Australia can supply a much larger volume of meat products for export.

New Zealand.

New Zealand has also a relatively large surplus for export. Her population is only about 1,350,000, while latest statistics credit her with having 2,000,000 cattle, 24,000,000 sheep and 350,000 swine. She thus has about one and one-half head of cattle, and about twenty head of all food animals per person. During 1913 she exported approximately 260,000,000 pounds of frozen meat, of which 90 per cent was mutton and lamb. The time occupied in passage from New Zealand and Australia to San Francisco is about twenty-two days, as compared with forty days from the same countries to England. On the other hand the transportation facilities from South America are better to England and the continent than to this country, all of which should be taken into account.

There are a few other countries with a surplus of meat products, such as Denmark, but their exports are not likely to increase.

Classified according to the kind of exports Argentina leads in beef, with Australia second. In mutton and lamb the exports from New Zealand are greater than from any other country, with Australia and Argentina contending for second place. The United States exceeds all the world in the volume of its exports of hog products.

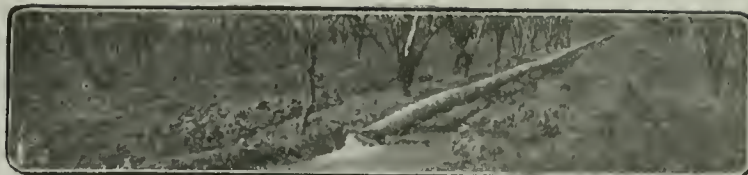
In order that you may have a clear understanding of the meat situation in the world, I will now briefly refer to the condition in the United States, for you must not lose sight of the fact that this country is still raising a surplus of meat food products. The United States has today a population of 97,000,000, and approximately 61,000,000 head of swine, 56,000,000 cattle, and 51,000,000 sheep. According

to the estimates of the Department of Agriculture, this is a reduction compared with 1900 of 1,700,000 swine, 11,800,000 cattle and 10,000,000 sheep, while the population has increased about 20,000,000. From these figures you will observe that in this country there are about one and three-fourths head of live stock per capita, compared with about the same number per capita in Canada, less than one in Mexico, seventeen in Argentina, twenty-five in Australia, and twenty in New Zealand. Exclusive of semi-civilized countries, the population of the United States is about 10 per cent of the people of the world who raise domestic meat food animals and consume them for food. We have within our borders about 16 per cent of the meat-food animals of the world—vastly more per capita than the average of all civilized countries. For the period from 1897 to 1909 the total value of our exports of meat animals and meat-food products averaged annually from \$200,000,000 to \$250,000,000—about one-seventh of our total production. For 1913 our exports of these products will amount to approximately \$150,000,000 (mostly pork products).

I cannot better describe the world situation as to live stock and meat exports than by the simple statement that the total value last year, at the ports of shipment, of all the meat animals and products exported from all the surplus countries of the world, except the United States, was less than the total average value of the meat-food animals and meat-food products exported from this country during the period 1897 to 1909, and by the further statement that the total value of all the exports of meat animals and meat products last year from all the surplus countries to which I have specifically referred was but little more than the value of our exports of these products. For the past year the United States exported a trifle more than 1,700,000,000 pounds of meat animals and meat-food products, including lard and other by-products of the packing house. While this is a smaller volume than the meat exported from Argentina, Australia, and New Zealand, its value was greater than that of the meat exports of those countries combined. The total value of the products of the slaughtering and meat-packing industry of the United States is estimated at \$1,600,000,000. Deducting the value of exports of these products last year, leaves \$1,450,000,000, which is the approximate value at wholesale of the meat products consumed in this country. With meats and live stock on the free list, I do not believe the value of the meat-food animals and meat-food products likely to be imported into this country during 1914 will exceed \$25,000,000, or less than 2 per cent of the value, at wholesale, of our domestic consumption. It more likely will be under than above that figure.

In considering the probable volume of our imports of meat products, there are several factors which should be taken into account. First, a large part of the meat exported from Argentina, Australia, and New Zealand is frozen, and there is a prejudice against frozen meat in this country. Our hutchers have no adequate facilities for handling it, and the surplus countries are not prepared to ship their products in the chilled condition. More important than this, however, is the fact that, with our competition added to that of the rest of the world, it is likely that the prices in other surplus countries will be so advanced that it will not be profitable to ship to the United States. The rest of the consuming world needs the meat that can be supplied by Argentina, Australia and New Zealand, and will pay more for the same than we can.

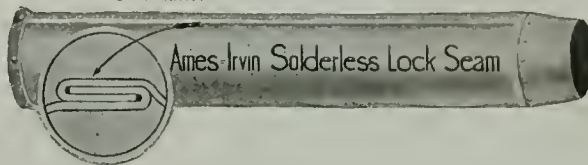
I probably should apologize for de-



The Practical Story of Farm Irrigation

In some cases as high as 64% of your water per mile for irrigation is lost through seepage. Added to this is the loss through evaporation. Each gallon lost represents a loss of money through the futile power expended. If you buy your water the loss in money is even more direct. Too much money is wasted in irrigation ditches—they cost too much to maintain; they consume too much soil area; they are too expensive to install. The cost of water for irrigation has risen 300% since 1902.

Irrigation pipe costs but little. The cost of installation is low; no seepage or evaporation is possible; the maintenance is nil; no grading of land is necessary, as it conveys water on uneven land as well as level land.



GET THE BOOK—IT'S FREE

All these are facts contained in greater detail in our free book about irrigation; its value and problems; how to use it and where. There also will be found vital information about water—the importance of water—its functions—capillary attraction—seepage—when to irrigate—where not to irrigate.

It tells about the difference in irrigation pipes—why Ames-Irvin Lock seam pipe is constructed without rivets or solder. Why and how the best results have been produced by it. Send for it today. A postcard addressed to Department D. J. will bring it.

AMES-IRVIN COMPANY

8th and Irwin Streets

SAN FRANCISCO, CAL.

BERKSHIRES

OAK GROVE BERKSHIRES

BRED FOR QUALITY

Oak Grove Berkshires are now better than ever. Our prices are reasonable—quality considered. You may buy cheaper Berkshires, but you cannot buy good ones for less than we sell them. Write for our illustrated catalogue.

OAK GROVE DAIRY FARM

Woodland, California

Reference: First National Bank of Woodland.

SUNNY SIDE STOCK FARM BERKSHIRES

My herd contains more Champions, more Descendants of Champions and more Parents of Champions than any other herd on the Pacific Coast.

G. A. MURPHY
PERKINS, SACRAMENTO COUNTY, CAL.



voting so much time to this subject, but I am anxious to impress upon you the fact that the removal of the tariff on our products ought not appreciably injure the live stock industry, and to assure those now in the business, and

other intending to embark into it, that the prospects are excellent for a continuance of substantially the present basis of value. Prices will fluctuate up and down, but they will not long remain below the present level.

Mention The Live Stock and Dairy Journal When Writing to Advertisers.

BERKSHIRES REGISTERED BOARS OF ALL AGES.

Two especially fine Boars ready for immediate service, at a sacrifice price. Also White Leghorn Hatching Eggs for sale.

RICCOMI BROS.,

Mountain View, Cal.

HILLMONT FARM

High-Class Registered

BERKSHIRE HOGS

Write for Information or Come and See.

CHAS. GOODMAN, Williams, Cal.

Berkshires

At California State Fair, 1913 with 12 entries my herd won 12 prizes, including Champion sow open class, and Champion sow bred by exhibitor.

Young stock for sale.

H. L. MURPHY

PERKINS, Sacramento Co. CAL.

PURE GOLD STOCK FARM

Breeders of BERKSHIRE HOGS
HOLSTEIN-FRIESIAN CATTLE

Offers for sale a few Choice Boars of breeding age, and a number of Boar Pigs containing the blood of Masterpiece and Robinhood. Prices, \$25 to \$75.

Also one choice Yearling Bull of good breeding.

MARKOFER & LATTI, Elk Grove, Cal.

millionaire, for \$7,000.00. This horse is not at his ranch at Tracy, Cal. This stallion is LONDECIPOS (99574) 97561. We are receiving any number of inquiries from all over the Pacific Coast, and we want to assure you that we appreciate your paper as an advertising medium for anybody in the stock business.

With best wishes for your continued prosperity,

Very truly yours,
WM. McLAUGHLIN, President,
McLAUGHLIN PERCHERON CO.

NOTES

J. K. Fraser, Denair, California, whose Duroc-Jersey hogs are known for quality in most of the Pacific Coast States, writes the Journal that there is a growing demand for Durocs, and reports the following late sales: The boar Victor Dee, to Jack London, Sonoma County, Cal.; the

boar King Scott Again, to Avar Tonnell, Stanislaus County, Cal. This boar was sired by King Golden, one of the greatest sires ever brought into California. D. B. Peters of Los Angeles County purchased five bred sows, Red Gladys, Perfect, Lassie I Am, I Am Perfection, and Topsy, all sired by King Golden and bred to Slocum's Crimson Wonder. These sows will be placed on the Imperial Valley ranch owned by Mr. Peters.

The levees on the Mokelumne River bottoms near Lockeford, California, were called upon early in January to turn back an immense volume of water, and stood up in excellent shape, no damage being done in that section.

A PSALM OF RANCH LIFE.

To A. B. H.

These verses are dedicated by his daughter, Bessie B. Greene.
(With apologies to Longfellow.)

Tell me not in idle numbers,
Ranching's like a pleasant dream;
For the rancher's gone that slumbers,
Ranching's not what it may seem.

Crops mean work, and crops mean
hustle,
From the early dawn 'till night;
Like the dickens you must bustle
'Till the failing of the light.

Not enjoyment—no, nor pleasure—
Shall your days or evenings fill;
But to scheme that every measure,
Next year may be heavier still.

Winter's long but spring is fleeting,
And our fields, though fertile quite,
Will no wheat nor barley mete us,
If they are not planted right.

Trust no ranch hand how'er handy,
Ne'r was one that that would not shirk;
Keep your eye on Bill and Andy,
Else they'll never do their work.

Let us not repine or sorrow,
Though our grapes were hit by rain;
Every pig may die tomorrow,
Every cow may have a pain.

Lives of ranchers all remind us,
We must hustle like them all;
And departing leave behind us
Hardly money for our pall.

Leaving ranches for another,
Seeking life of pleasant ease;
A blase' town—weary brother,
There to find the price of peace.

Listen, then—oh, happy dreamer!
Hear my lay with solemn mind;
You will be a clever schemer,
If in ranching ease your find.



For Sale

ELEVEN HEAD OF

Registered Percherons

One 3-year Stallion, weighing 1900 pounds; two 2-year-old Stallions; two yearling Stallions and six Mares at a reasonable price.

F. F. MARTIN

338 ELM STREET, RENO, NEV.

HORSES And MULES SHETLAND PONIES

I both buy and sell mules and horses. Have on hand at all times mules to hire in carload lots. Also breed Shetland Ponies, and have several weanling colts and a few well broke ponies for sale.

J. L. MENDENHALL, Williams, Calif.

Kentucky Jack and Percheron Farms

Big Boned Kentucky Mammoth Jacks, Saddle Stallions, Mares, Colts and Fillies. A number of Jacks and Saddle Colts that can be shipped by express at a very low rate. Write for catalog or visit our farms.

COOK & BROWN,
LEXINGTON, KY.

SHETLAND PONIES

I have a superior lot of Shetlands, three to six years old, mostly spotted. All are sired by imported stallions and the mares are in foal to an imported spotted stallion. There is a carload of these ponies, and I will make a special price on them which will admit of the buyer making a splendid profit.

For prompt sale, I will take \$100.00 per head for 35 head, and on a larger number will shade the price \$5.00 per head on not less than 40 head.

These ponies are ready for immediate use and are worth \$150.00 per head.

H. T. MORGAN, Glen Ellyn, Ill.

Salvador Stock Farm Shire Horses

Don't Sign that Note for \$3000

I will sell you a better horse
for half the money

Henry Wheatly, Napa, Cal.



WEINSTOCK, LUBIN & CO. DELIVER FREE

\$3.50



\$3.50

We pay transportation charges on all merchandise purchased from us. This applies not only on wearing apparel, but also on staples, such as hardware, tools, etc. Send for our free Catalog No. 16.

VLS 69—Men's Nox All Guaranteed Shoes. If within six months from purchase, these shoes wear out in any part but the soles, you may return them at our expense for your money or for another pair. Uppers of heavy bark tanned leather, waterproofed. Soles sewed and reinforced; bellows tongue. Sizes 6 to 11, in wide widths only. Delivered free, \$3.50.

WEINSTOCK, LUBIN & CO., Sacramento, Cal.

AYRSHIRE CLUB MEETING

The thirty-ninth annual meeting of the Ayrshire Breeders' Association was held at the Manhattan Hotel, New York, January 8, 1914, with about one hundred members and friends present.

The opening address of President Valentine was jubilant with congratulations for the success and prosperity of the Association and Ayrshire Breeders during the year just closed.

The report of Secretary Winslow, showed the Association to be in a most healthy growing condition with eighty-eight new members and six who paid their fee after the books were closed for the year, making ninety-four new members since the last meeting.

Volumes XXIV and XXV of the Ayrshire Register were issued, and Volume XXVI is ready for the printers.

The entries to the Herd Register for bulls are being recorded in the 16000 and for cows in 36000 numbers.

The continuously increasing inquiries for information about the Ayrshire cow show plainly the growing interest in the breed.

The report of Treasurer Winslow showed a cash balance in the treasury of \$7460.50, with no outstanding bills.

The report of the advanced registry work was most gratifying in that each class brought out a Champion for the French Cup Prize.

In the Mature class, Auchinbrain Brown Kate 4th, owned by Percival Roberts Jr., Narberth, Pa., made for the year an official record under the supervision of the Pennsylvania State College of 23,022 lbs. of milk, 917.60 lbs. of butter fat, equal to 1080 lbs. of butter 3.99 per cent fat.

In the four-year-old class, Agnes Wallace of Maple Grove, owned by M. G. Welch and Son, Burke, N. Y., made for the year an official record under the supervision of the Canton School, Canton, N. Y., of 17,657 lbs. of milk, 821.45 lbs. of butter fat, equal to 966 lbs. of butter, 4.55 per cent fat.

In the three-year-old class, The Abbess of Torr, owned by John R. Valentine, Bryn Mawr, Pa., made for the year an official record under the supervision of the Pennsylvania State College, State College, Pa., of 14,582 lbs. of milk, 640.72 lbs. of butter fat, equal to 754 lbs. of butter 4.39 per cent fat.

In the two-year-old class, Beuchan Joan, owned by John Sherwin of Cleveland, Ohio, made for the year an official record under the supervision of the Ohio State College, Columbus, Ohio, of 12,773 lbs. of milk, 532.07 lbs. of butter fat, equal to 626 lbs. of butter 4.17 per cent fat.

The average of all the advanced registry tests from the beginning of the testing to January 1, 1914, by classes is as follows:

419 in mature class average 10,531 lbs. milk, 407.45 fat, 479 butter, 3.83 per cent fat.

146 in four-year-old class average 9599 lbs. milk, 378.92 fat, 446 butter, 3.95 per cent fat.

197 in three-year-old class average 9350 lbs. milk, 351.97 fat, 415 butter, 3.94 per cent fat.

351 in two-year-old class average 7866 lbs. milk, 317.11 fat, 373 butter, 4.03 per cent fat.

1113 total cows and heifers average 3378 lbs. milk, 365.40 fat, 430 butter, 3.94 per cent fat.

The election of officers resulted in the choice of:

John A. Ness, Auburn, Maine, President.
J. W. Cilse, Seattle, Washington, Vice-President.

John R. Valentine, Bryn Mawr, Pa., Vice-President.

Wm. T. Wells, Newington, Conn., Vice-President.

G. H. Converse, Wondville, N. Y., Vice-President.

C. M. Winslow, Brandon, Vt., Secretary-Treasurer.

George H. Yeaton, Dover, N. H., Auditor.

C. H. Hayes, Portsmouth, N. H., Director for three years.

Geo. E. Pike, Gouvernor, N. Y., Director for three years.

Chas. J. Bell, Hollis, N. H., Director for three years.

Henry Fieldon, Newton Square, Pa., Director for three years.

P. Ryan, Brewster, N. Y., Director for three years.

W. F. Stephen, Huntington, Que., Director for three years.

H. J. Chisholm, Port Chester, N. Y., 200 5th Ave., Director for three years.
Mrs. F. D. Erhardt, West Berlin, Vt., Director for three years.

Various matters of interest to the growth and extension of the Association were discussed until 6 o'clock, when an invitation was given by President Ness to those present, to remain to the Association banquet, which was accepted by fifty-five, who enjoyed a pleasant evening at the table and a smoke talk afterwards until 11 o'clock.

C. M. WINSLOW, Secty-Treas.

AMERICAN GUERNSEY CATTLE CLUB NOTES

During the four weeks beginning December 19, 1913, and ending January 17, 1914, registration was issued on 323 bulls and 621 females. A total of 860 transfers were recorded during the same period.

During the same four weeks Advanced Register credits were allowed on 49 cows of all ages, for 30-day production of over 50 pounds butter fat. The average for the whole number was 1166.32 pounds milk, 58.61 pounds butter fat, average test 5.143%.

The list for the period was headed by Imp, Fanny of the Hall, with a production of 1231.80 pounds milk, testing 6.60%, and yielding 81.30 pounds butter fat.

BLACK LEG
Losses surely prevented by Cutter's Blackleg Pills. Low-priced, always fresh and reliable, they are used by over 80 per cent of California and Western stockmen, because they protect where other vaccines fail. Write for booklet and testimonials.
10-dose pkgs Blackleg Pills.....\$1.00
50-dose pkgs. Blackleg Pills.....4.00
Cutter's Blackleg Pill Injector.....1.50
Pills may be used in any injector, but Cutter's is simplest, strongest and easiest to use.

Every package dated, unused pills returnable for free exchange for fresh after date on package. Do not use old vaccine, or of uncertain age (ours or any other) as it affords less protection than fresh.
Discounts: 250 doses, 10 p.c.; 500 doses, 20 p.c.
Insist on Cutter's. If druggist doesn't stock, order from Laboratory, giving address plainly. We prepay charges and ship promptly. Send personal check or M. O.
THE CUTTER LABORATORY, BERKELEY, CAL.

A SURE CURE

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SHEEP

WASHINGTON SHEEP BULLETINS.

The Washington Experiment Station has recently published two bulletins of interest to sheep raisers of the Northwest. The first of these (Popular Bulletin No. 58), is entitled "Sheep for Washington Farms," written by Professor Ashby, and is designed to aid the ordinary farmer with detailed information in regard to the management of a small herd of sheep on the farm. It contains much valuable information upon feeding, breeding, selection, and general care of sheep.

The second bulletin (General Bulletin No. 113) will appeal especially to the larger sheep owners, that is, those raising sheep on the range. It discusses "The Plants Used for Food by Sheep on the Mica Mountain Summer Range." It is the result of extended investigations carried on by former Professor Beattie during the Summers of 1911 and 1912 in which the Mica Mountains of Northern Idaho, a range much used by Washington sheep men. The bulletin discusses the economical use of the forest as a grazing ground and gives a large amount of information on the value of owners pasturing on the range, as well as to foresters and those interested in forest management. A number of troublesome and controverted questions in regard to the effects of sheep upon the forest are cleared up insofar as this range is concerned. The types of plants used as a food by the sheep has been the subject of much controversy and a good many of the popular notions will be dispelled by this piece of investigation.

After an explanation of the vegetative regions of Washington, Professor Beattie discusses the subject under the following heads: Management of the sheep, types of grazing regions considered, the herding system, what the sheep eat, and the effect of grazing upon the forest.

In the White Pine Forest it was found that the plants which the sheep relish most and use much for food were broad-leaved huckleberries, coral

berries, rose (several varieties), honeysuckle, alder, service berries, maple, red dogwood, spiraea, and false Solomon seal. Of these the first five are very abundant and form a large percentage of the food of the sheep. The small meadows of the forest are used but little by the sheep. Here they feed only in the cool of the evening and usually will eat any of the plants growing there, mostly such plants as are commonly considered weeds.

In the Yellow Pine Forests the important plants forming food for the sheep are the buck brush and sticky laurel, both of which are greatly relished and, on account of the large amount of oil in the leaves, are very fattening. These two plants are the most valuable of the sheep range. It was found that the sheep are exceedingly fond of hellebore and ate it in abundance without any injurious effect, an interesting fact, in view of the popular notion that this plant is poisonous and often causes the death of sheep. It is of interest to note that the sheep are also exceedingly fond of mushrooms, though the latter are not abundant enough to form any important factor in the food supply.

Ferns and cone-bearing plants such as fir, cedar, spruce, pine and tamarack (larch) are rarely, if ever, eaten, thus the sheep do not in this manner destroy the young forest.

"Well managed sheep grazing is having no deleterious effect upon the reproduction of the forest or of its grazing plants.

"The presence of sheepmen in the forest during the fire season is an assistance in fire protection.

"The leasing system for grazing lands tends to eliminate injurious competition, over-grazing and grazing feuds, and is by far the most satisfactory method of handling these lands.

"Well managed sheep grazing, such as is here reported, is a valuable and important factor in the sheep business of the Northwest. Such grazing should be encouraged and extended till every square mile of available Summer and Winter range is in use and the wool and mutton used in the Northwest is produced in the Northwest."

These bulletins may be obtained free by application to the State Experiment Station, Pullman, Wash.

A third bulletin, which will be out in a couple of months, discusses the range conditions of the Blue Mountains.

IRA D. CARDIFF, Director.

COTSWOLD SHEEP FOR UNIVERSITY FARM.

Ever since the meeting of the National Wool Growers' Association in Portland four years ago, Oregon has been recognized by sheep men as the home of the best flocks of long wool sheep in America. Eastern breeders and importers have since that time been buying breeding and show sheep of the Lincoln and Cotswold breeds from the Oregon flocks. Among the Oregon breeders none have been more consistent winners at the shows than F. A. Kiser of Rickreall, breeder of Cotswolds, and Riddell Brothers, who breed both Lincoln and Cotswolds sheep, as well as high class Angora goats. At the recent Pacific International Stock Show, Professor True bought for the University flocks at Davis some of the choicest ewes shown by Riddell Brothers, and the Champion ram lamb shown by Mr. Kiser. Mr. Kiser who has bred many champions, declares the lamb sold to the University of California the best he has ever bred, and the University believes the best is none too good for California.

THE VALUE OF THE SKUNK TO AGRICULTURE

The skunk, which is represented throughout the country by a number of varieties, genera and species, is an animal of great economic importance. Its food consists very largely of insects, mainly of those species which are very destructive to garden and forage crops. Field observations and laboratory examination demonstrate that they destroy immense numbers of white grubs, grasshoppers, crickets, cut-worms, hornets, wasps, and other noxious forms. The alarming increase of the white grub in some localities is largely due to the extermination of this valuable animal.

It is a matter of common observation where white grubs are particularly abundant in corn fields to note little round holes burrowed in the ground about hills of corn. These are made by skunks in their search during the night for these grubs. During the recent outbreak of grasshoppers in Kansas it has been determined that in many cases a large proportion of the food of skunks consisted of these grasshoppers.

Some of the most destructive insects in agriculture are such as do their work below ground and out of reach of any method that the farmer can apply and it is against many of these that the skunk is an inveterate enemy. Notwithstanding all of this, there is probably not an animal that is as ruthlessly slaughtered as is this one, whereas it is equally entitled to protection with, if not more so than

some of our birds which enjoy this privilege.

In some regions, especially in the southwest, the bite of the skunk is supposed to produce hydrophobia. This fear is unfounded since it is proved that the bite of a healthy skunk is no more serious than similar wounds caused by other agencies.

BUREAU OF PLANT INDUSTRY GIVES LECTURES ON STOCK-POISONING PLANTS.

Arrangements have been made by the Forest Service with Dr. C. D. Marsh of the Bureau of Plant Industry, Washington, D. C., for a series of lantern-slide lectures on stock-poisoning plants, to be given at points in California and Nevada. Dr. Marsh will deliver the lectures in person and will tell the stockmen who come to hear him all that his department has worked out on this subject. Meetings have been arranged for

Carnerville, Nevada.....	February 2
Nevada City, California.....	February 4
Sonora, California.....	February 6
San Andreas, California.....	February 7
Oroville, California.....	February 9

The subject of poisonous plants is one of great importance to California and Nevada stockmen, and it is expected that the interest will be shown by good attendance at each meeting-place.

TO LAND OWNERS

An English sheep farmer from Australia, of large experience in sheep ranching, expert in cultivating pastures for fattening stock, early spring lambs, and growing fine wool, is now open for an engagement to manage or establish a first class ranch.

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PRIZES WON BY FLOCK, 1912:

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Oregon State Fair—Two firsts, Champion Ram and Champion Ewe.

Spokane (Wash.) Interstate Fair—Five firsts, Champion Ewe.

Boise (Idaho) Intermountain Fair—Eleven firsts, Champion Ram and Ewe over all breeds.

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First Prize Ram Lamb at Omaha.

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Mention The Live Stock and Dairy Journal When Writing to Advertisers.

THE FARM WOMAN'S PAGE

Conducted by Aunt Marcel

This department is conducted for the purpose of dealing in a helpful way with the many problems which are encountered by the woman on the farm. Household and home questions from our women readers are encouraged. Address all correspondence for this department to Aunt Marcel, The Live Stock and Dairy Journal, Sacramento, California.

(Frankly, the idea of a woman's page in the Journal is something of an experiment. While the Journal is very generally looked upon as a "man's paper," we know as a matter of fact that it is read with a great deal of interest by a large number of farm women who are as much interested in animal husbandry as are the men folks. Some of these have frequently suggested that a page devoted to farm home interests would be appreciated. So we have finally yielded to the suggestion, have secured the services of a practical and capable woman to conduct the department—and the experiment is on. It will be made a permanent feature of the Journal just as quickly as we are convinced that it has won the approval of our women readers.—The Publishers.)

PROBLEMS

The problem of the farmer's wife and daughter reminds me of that of the little girl who, while visiting a toy shop, asked: "Mama, can I have anything I want?" To which the reply was: "Yes, dear, but be careful not to want anything you cannot have."

The monotony of farm life is such that it is almost impossible to prevent falling into a sort of apathetic condition, in which one follows the routine of necessary work and soon loses all interest in the few pleasures available. But right there is where so many of us make our fatal mistake, and why we country women grow old faster than our city sisters. For when we lose our capacity for pleasure, when we begin to live because we have to, not because we like to, youth is gone forever. For that reason we women on ranches must fight always against the overwhelming monotony of our life and work.

But how? That is always the question. In as far as is possible we must increase our material resources for diversion, but we must go even further. We must learn (and it is not easy) to take the little things within our reach and get as much from them as if they were the things we most desired—a buggy ride, a country dance (though we have to put the babies to sleep in the cloak room), a book club, a flying trip to town and a moving picture (when we wanted so much to see a star), a neighbor's visit (though the neighbor may leave much to be desired even as a calling acquaintance), a good book, a magazine story. It is not a case of theory or duty, it is a pure case of self-preservation, for the woman who has not the capacity within herself to grasp these meagre pleasures and make them supply her need is lost and can never hope to hold her own against the odds of her environments.

THE FARM GARDEN

The woman who wants early vegetables should be thinking about getting her garden soil into shape for planting these days. Early peas, beets, spinach, mustard, carrots and turnips must go in just as soon as the ground is dry enough to work.

Lettuce, cauliflower and cabbage may be started in a cold frame, which is cheaper than a hot bed and is quicker than the open earth. A cold frame is simply a frame set on the ground in a sheltered place. The cover on which is stretched oiled muslin is put on at night and left on, on cold days. No manure is used, but

leaf mold (rotten leaves) or compost is good, if available.

Tomatoes, peppers and cucumbers should be started in a hot bed by the middle of February. One week before making a hot bed prepare the manure. Horse manure is best and should be composed of about one-half droppings and one-half straw. Pack it into a compact pile, tramping thoroughly. Leave it three days. By that time the inside of the pile will be hot. Fork it over, repack and tramp. Leave it three days more, when it should be thoroughly hot clear through and ready for use. Dig a trench $2\frac{1}{2}$ to 3 feet wide and 18 inches deep. Put in one foot of the heated manure. On top of this put six inches of rich loam, in which one inch of leaf mold (if you have it) has been mixed. The frame must fit the hot bed. It should be one foot high on the back, six inches high on the front, face the south and the top be made of window sash.

INTERIOR OF FARM HOMES

Did you ever think how much of an effect the interior of the house in which you live has upon your moods, thoughts and energy? It is so much easier to sweep and dust a room in which the woodwork is a clean white, the walls a pleasant light shade, the curtains thin and fluffy and the floor covering clean looking.

The rooms of a farm house may be made very pleasant and cheerful at slight expense, if one but follows the keynote of simplicity and cleanliness. One of the first things to do away with in the old-fashioned farm house is the best parlor, which is usually kept closed except on special occasions and is of no benefit to the family, besides being a burden to keep clean, a place for dust to collect and moths to breed. Turn it into a pleasant, every-day living room where your family may spend long, pleasant winter evenings as well as entertain their friends. Take down the family portraits and hang them all together in an upstairs room, if you have any sentiments regarding them, it will be far better for you and your family not to look daily at these unflattering likenesses of dead or living relatives. There are good copies of great pictures to be obtained and framed cheaply at many stores, whose influence upon your mind and those of your children will be distinctly stimulating, uplifting and educational. Better one of these pictures in a room than half a dozen unlovely ones.

There are pretty designs of cheap wall paper on sale at the stores which are entirely suitable for farm homes. It is better in the country to use a cheap paper and change it every two or three years, as the dust in the summer renders it impossible to prevent the paper becoming dingy. A handy woman can paper the rooms of an ordinary ranch house with the aid of a boy. In selecting paper—avoid the large and glaring patterns, belong sure that your tones are all soft. Be careful to have the ceilings lighter than the walls, and the walls light in a dark room. Where the ceilings are low you can give them height by running the paper straight to the ceiling and placing the molding at the top.

Use curtains of some light, filmy material such as swiss or hemstitched scrim. They admit more light and air, are easier to launder, cheaper to buy and more artistically suited to the surroundings of a farm home than

the more elaborate imitation lace ones. Hang your pictures on a level with your eyes, even though your ceilings are high. Discard or store away the old-time bric-a-brac of your mother's day, for it is inartistic, hard to keep clean and useless. Have your ornaments few, simple and useful. A pretty vase for flowers, a hemstitched table cover, a bust of a famous man are within the reach of all and are always suitable.

Above all remember that every woman's home is a reflection of herself and that it has a very material influence upon the developing minds of her children. Try, therefore, to put into it an element of thought, harmony and quiet, though you may have to work with the simplest and cheapest of materials.

CAKE WITHOUT EGGS OR MILK

Apple Sauce Cake.

One and a half cups hot apple sauce, 1 cup sugar, 1 cup seeded raisins, 1 cup chopped nuts, 2 cups flour, 2 teaspoons soda, 3 tablespoons chocolate, 2 tablespoons cornstarch, $\frac{1}{4}$ teaspoon cloves, 1 teaspoon allspice, 1 teaspoon cinnamon, 1 teaspoon nutmeg, $\frac{1}{2}$ cup melted butter. Mix sugar and hot apple sauce. Sift all dry materials three times and add them. Then add the chopped raisins and nuts. Last add the $\frac{1}{2}$ cup of melted butter and bake at once in a medium oven.

TO ROAST MEATS WELL

All meat should be roasted in a very hot oven. Rub salt into the roast well before putting it into the pan. Add one inch of boiling water to the pan with the roast and put into a very hot oven. It should brown well in less than a half hour. Then turn it over and brown the other side well. When it is sufficiently browned, do not cool the over, but cover the meat with a soft old piece of muslin and baste every fifteen minutes over the muslin. Keep the oven hot and add water to the pan as necessary. The cloth will burn, but it will protect the outside of the meat. Veal, lamb, mutton and pork should always be cooked thoroughly and 20 minutes to the pound will be sufficient. If you like your beef rare, 15 minutes to the pound is enough.

OUR DIMINISHING SUPPLY OF FOOD FISH.

It should be brought home to every man, woman and child that the State of California is gradually being mulcted of its available fish supply, and this is done in varied and devious ways. The necessity of taking action in some form through remedial legislation in state, county and municipal affairs for the protection of our rapidly diminishing food fish supply is pressing and apparent.

The domination of the alien in the

fish market is one of the principal causes with the added system practiced by them in the wholesale handling of fish. There are nearly twice as many citizen market fishermen as alien, yet the violations of the fish laws by aliens outnumber the citizen nearly two to one. That proves that the alien is not law abiding, that he will go almost any length to get fish, that he cares not at all whether he takes fish that are fit for food, that the supply of fish is nothing to him, and that the State as a whole would be better off if he were refused a license altogether and be prohibited from taking any part of the fish life of the State.

No other nation on the face of the globe taxes its citizens as they tax themselves here to maintain the good and welfare of the alien who does not and will not become citizens of the country. They can have no interest in the good of the Government save that which will add to their wealth.

What cares the alien for the fish that you care for and protect? Not a particle. Just to show that he does not, take the figures of the Fish and Game Commission showing the licenses issued and the arrests and convictions had during the past year. The record is given below in tabulated form:

Commercial Fishing Licenses.

Citizen	\$2.50	2159	\$4,902.50
Alien	10.00	1815	18,150.00

Arrests and Convictions.

Citizen	192	\$2,215.00
Alien	216	4,797.00

Keep Your Dress Clean

By wearing Overall Aprons. Cover entire dress. Neat, plain, and easy to launder. Well sewed, full sizes, and will not ravel. Made of best quality apron gingham or percale. Children's, with elbow sleeves, 2 to 6 years, 3 for \$1.00; 8 to 14 years, 3 for \$1.15. Women's, without sleeves, 50c each or 3 for \$1.40. Delivered postpaid in United States. If not satisfactory, money refunded.

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Pansy, Orchid-ld., superb new orchid colors.
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All these Six leading Seed Novelties for only 10 cts., together with Notes on Culture, Catalogue, Floral Hints, etc. **Our Big Catalogue** of Flower and Veg. Seeds, Bulbs, Plants and rare new Fruits free to all who apply. We are the largest growers in the world of Gladioli, Cannas, Dahlias, Lilies, Iris, etc., and our stocks are best and cheapest.

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Baseballs, Bats and Mitts

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POULTRY

COALINGA POULTRY SHOW.

The Poultry Association at Coalinga has added one more new show to the State's list this year. The members and officers worked hard to make it a success and the merchants and bankers gave liberal donations. Some of the silver cups were eighteen inches high; such cups as these will attract the attention of many exhibitors next season. J. D. Yates of Modesto judged the show to the satisfaction of the exhibitors. The Coalinga association is expecting a good show next year, the show just past being better in every way than they had anticipated.

The poultry show at Modesto in December was another big success, due to the good management that characterizes this annual event. R. V. Moore and J. D. Yates placed the ribbons for the third successive year.

If you have fleas in your hens' nests get rid of them, for they are a pest. The writer has seen hens in the show room with their faces almost black with the pesky little blood suckers. You can scald the nests to no avail. The writer has heard of them being boiled with the wash and coming through alive and with good appetite. However, they can not stand pyrethrum powder. Buy a pound of the druggist and get it pure.

The Rhode Island Reds as practical money makers are simply ideal, for they are salable at every stage of their growth after they touch the three-quarter pound mark, because when fed, they are always plump. The farmer who only cares to carry a couple of hundred hens can do his own hatching with them, because they are good sitters. Many a poultry beginner is stranded on the buying baby chicks by the thousand route, who would win out big if he did his own hatching with hens, began on a small scale. The Reds are good winter layers; they lay in winter naturally because it is the nature of the bird. The trait is born in the blood and bred in the bone, consequently they need neither coaxing nor pampering to make them lay when eggs are up in price.

PRACTICAL POULTRY AND PET STOCK POINTERS.

If the rooster picks at the hens when feeding, he is like the human hog, he is no good for the poultry yard, so should be got ready for table use.

Chicks that are dumpy and sluggish, or hens that have running nostrils need prompt attention, for healthy chicks are spry and lively, and hens in good health always have clean nostrils, and dry ones.

Four things are essential to the well being of poultry, and should always be at hand in plenty, grit, shell, water and cleanliness.

Young chickens should be fed five times daily, but no more than they can clean up each time, and sent to roost with a full crop.

The male bird is the best half of the pen, and he should come from a fine laying mother if plenty of eggs are expected from the resultant chicks.

If wet mashers are used they should be crumbly, for sticky or sloppy ones are an abomination, the sticky ones get carried in the dirt, and slops cause bowel trouble.

Keep all lamps clean as if used in the house, then you will have less danger by fire.

If you are not sure of the sitting capacity of the broody hen, test her out on a china egg for a few days, then place the good ones under her to hatch, and do so at night.

Equal parts of sulphur and sweet oil with a little coal oil in it, will cure scaly leg if applied like paint a few times.

Gapes in poultry is generally caused by foul ground, but plowing and seeding will remove the cause, and all land where poultry have run should be plowed and sown at least once in every two years, and each year is better.

Sick ones should be separated from healthy, and general cleanliness in scraping and sweeping with a good disinfection should be attended to if health is expected.

Never crowd the growing chicks, and keep them busy all the time by supplying greens, grains and dry mashes to pick at.

Poultry Editor *The Live Stock and Dairy Journal*: Will you please tell me through your valuable magazine in next issue, what two breeds of hens are fine for table, and two that are good for laying purposes. M. L., Holtville, Cal.

Plymouth Rocks and Orpingtons are fine for table, and Minorcas and Leghorns for eggs.

Poultry Editor *The Live Stock and Dairy Journal*: In which direction should open fronts face as a rule, and what is the average amount of floor space allowed each fowl? Hoping to see a reply in next issue. Yours H. E. D., Santa Ana, Cal.

It is generally better to face open fronts south to get all sunlight possible, and about two square feet, to each bird, of floor space.

Poultry Editor *The Live Stock and Dairy Journal*: What is the easiest part of the poultry business to commence with for a novice, supplying hatching eggs, baby chicks, or eggs for market at wholesale? Thanking you for a reply in next issue. J. K. L., San Jose, Cal.

The part where a novice will be less likely to make mistakes on the average, with possibly less work, is supplying eggs for market, that is table eggs, but not always the best paying on the whole.

Poultry Editor *The Live Stock and Dairy Journal*: Will you please tell me the best and quickest way to clean soiled eggs for market. L. Y., Modesto, Cal.

The easiest way is to supply plenty of clean litter, or excelsior, to each nest, and if they get soiled then by the hens walking in on them, to collect them as often as possible and wipe with a damp rag while the marks are fresh, but if the marks are difficult to get out use a little sapolio or other cleaning compound with the wet rag and finish with a dry cloth.

Poultry Editor *The Live Stock and Dairy Journal*: Please tell me if double yolk eggs hatch good and if they bring abnormal chicks. Also what is the average weight for fair sized hen's eggs. M. E. T., Redlands, Cal.

Double yolk eggs do not generally hatch, or any abnormal eggs, better place such on table, and place regular sized and smooth eggs under the hen or in incubator. The average weight of hen's eggs run from 22 to 26 ounces to the dozen.

Poultry Editor, *The Live Stock and*

Dairy Journal: Will you please tell me when I should begin to turn the eggs in incubator, and when to stop? M. A., Fresno, Cal.

Turn the eggs twice daily after the third and including the eighteenth days, and cool them daily after the seventh up to the eighteenth.

Poultry Editor, *The Live Stock and Dairy Journal*: I have two ages of chicks, will it be advisable to place them in the same brooder? W. O., Mayfield, Cal.

It is certainly not advisable to place two ages of chicks together, as generally the older will absorb the vitality of the younger, and you will have some stunted chickens.

Poultry Editor, *The Live Stock and Dairy Journal*: Which is the best nesting material of the following, and why? Straw, excelsior, hay, sawdust, shavings, or clean rags? S. O. S., Eureka, Cal.

Excelsior is by far the best of the lot, as it will not be scratched out as hay or straw is liable to be, and it will not harbor mites as much as rags, also being better than shavings or sawdust.

Poultry Editor, *The Live Stock and Dairy Journal*: I have two kinds of soil on my place, a sandy loam and a very gravelly one that is full of small and medium stones, will you tell me which is better of the two for young stock of poultry. R. O. T., Glendale, Cal.

Of the two I would take the stony soil for any ages of chicks, it is less liable to keep water on top after rains,

and the poultry will find material to help digestion in the small stones.

Poultry Editor *The Live Stock and Dairy Journal*: How wide or thick should the roosts be made for adult hens, and about how far from the ground? N. N., Los Angeles, Cal.

Roosts should be made of two by two-inch material, and the top edges rounded, about two feet to thirty inches above the floor, and with a space of eighteen inches at least between each roost.

Poultry Editor *The Live Stock and Dairy Journal*: What is the best depth of litter for full grown stock in which to scatter litter, and what grains are advisable for egg production? T. H., San Dimas, Cal.

From four to six inches of litter with a deeper boarding around to prevent scattering, and equal parts of wheat, Kaffir corn, oats and rolled barley.

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Buff Orpingtons
Bred for Size and Heavy Laying. Carefully selected trios and pens of utility, and Prize Winning Stock for sale. Also Eggs from Specially Mated Pens. MRS. C. M. SMYTHE
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Direct Importation From Harshbarger's Blue Ribbon Strain.
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Leghorns and White Rocks

I have White, Brown, and Buff Leghorn Chicks that will grow into nice winter laying pullets. All pure bred, and some will make exhibition stock, from proven good layers: \$10.00 per 100, \$90.00 per 1000.
Also White Plymouth Rock Chicks, Fischel strain, from the finest lot of hens you ever saw. I have only a limited number at \$13.50 per 100. Write today.

JAMES D. YATES, Expert Poultry Judge, Modesto, Calif.

Incubator Chicks

White, Buff and Brown Leghorn, Black Minorca, White Rock. All high-class stock.
Send for Booklet of prices.

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P. O. BOX 597, SACRAMENTO, CAL.

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BREEDER OF HIGH CLASS BUFF ORPINGTONS, WHITE PLYMOUTH ROCKS, AND SILVER WYANDOTTES.

Fine Breeding Stock Ready for Sale. Booking Orders for Hatching Eggs.

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SILVER LACED WYANDOTTES

My stock of Great Winter Layers is the best to be had on the coast. Eggs \$2.00 per setting of 15 eggs, or three settings for \$5.00. No stock for sale.

"THE CALL of the HEN"

OR THE HOGAN SYSTEM OF PICKING OUT THE LAYERS, the New Book lately issued by Walter Hogan and endorsed by the best known breeders and experts on poultry. Subscription one year to *The Live Stock and Dairy Journal* and this Book for \$2.50.

DR. WHEELER'S SPECIFIC FOR ROUP

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BEEF CATTLE

KILLING OF UNIVERSITY JOE PROVES STEER A MARVEL.

"University Joe," bred by the University of California, has been slaughtered. That this prize-winning animal has been proved the best steer that ever went through the Great Western Meat Company's plant in San Francisco is declared by the officials of that company.

This two-year-old Hereford steer was bred by the University at the University Farm at Davis and exhibited at the California State Fair and Pacific International live stock show at North Portland. It was found in the meat animal's court of last resort, the butcher's block, that "University Joe" exceeded in per cent yield by 6 per cent any steer ever handled by the Western Meat Company. After seeing the animal at the University Farm, F. L. Washburn of the Western Meat Company made a trip to Portland to buy him for Christmas display in San Francisco. In a letter to the University, William E. Hough, of the Western Meat Company, says:

"We are not complimenting you too highly when we say that the steer was the best that ever went through our plant, and has set an extraordinarily high mark for any steer to equal.

"We figured on weights, weighted empty off the cars, and freight paid from Portland to South San Francisco: "Weighted Portland.....1360 "Weighted in South San Francisco.....1275 "Live cost.....11.77 per cwt. "Weight of hide.....98 lbs. "Weight of fat.....66 lbs. "Per cent yield.....70.9

"The per cent yield exceeds by 6 per cent any steer we ever handled."

The University has on hand constantly at the University Farm just such high-class animals as "University Joe," bred and raised there and used in the stock-judging classes for University and University Farm School students. The aim of the University is to set before the students and the general public the best possible individuals of the various types and breeds of farm animals, so that high ideals may be established in the minds of agricultural students and farmers. Many farmers and stock-men visit the farm every day and see the fine flocks and herds, so the results of the good examples set there are being spread throughout the State.

HOW UNIVERSITY JOE WAS FED.

Breeders of beef cattle may be interested to know how the pure bred Hereford steer, University Joe, bred and raised by the University of California, was fed and handled from calf-hood until he was sold to the Western Meat Company during the Pacific International Exposition in Portland, December, 1913.

This steer was born in August, 1911 and ran with his dam in pasture until the latter part of December. In January he was weaned (at five months of age) and was then fed morning and evening two pounds of mixed grain consisting of rolled barley two parts, rolled oats two parts and bran one part, by weight, with what alfalfa hay he would clean up. This was kept up until about the first of April when he was turned in alfalfa pasture during the day and fed in the evening about three pounds of the same grain ration. He also had access to what alfalfa hay he cared to eat during the night. This was continued until the middle of July, when the first indication of a high class show steer were noticeable.

He was then taken into a box-stall during the day. The grain ration was increased to eight pounds of the above mixture and one pound of oil meal, which was fed in three feeds. For roughage he was fed alfalfa hay in the morning and green alfalfa noon and night. This method of feeding was kept up until the month of September when he was shown at the California State Fair, winning first in his class.

After returning from the State Fair he was again turned onto alfalfa pasture and the grain reduced to five pounds daily with a liberal allowance of beets fed morning and evening. In December, he was taken off pasture, the beets discontinued and twelve pounds of corn ensilage substituted with what alfalfa hay he would clean up. During the Winter months he was outside the greater part of the time except when being fed, or in very rough weather.

About the first of May he was stabled in a box-stall during the day and allowed the run of a large corral at night along with several other steers. At this time the grain was increased to twelve pounds daily mixed with cut alfalfa hay and soaked with boiling water to which was added a small quantity of molasses. This was al-

lowed to stand till cool and fed in four feeds daily, 5:30 A. M., 11 A. M., 5 P. M. and 9 P. M. Most of the roughage fed consisted of green alfalfa.

By the first of August he seemed to be coming along too fast to insure his condition being right when exhibited at Portland. To correct this, the barley was discontinued for a time and equal parts of oats and bran mixed with cut hay were fed. He was also given more exercise being led some distance at the halter every day.

In September he was again shown at the California State Fair, winning first in his class and Champion Hereford of the Show but was defeated for the Grand Championship by his stable mate, a pure bred Angus. After returning from the State Fair, he was pushed along quite rapidly until within a week of the time he was shipped to Portland. His feed at this time consisted of about fourteen pounds daily of the following ration, corn one part, barley one part, oats two parts and bran one part, steamed and mixed with a small portion of cut hay. To this was added two pounds of oil meal

and a few beets. During the latter part of this period the roughage was cut down somewhat and he was exercised at the halter for over a mile every morning.

During the short courses and also in the regular course, he was used extensively in the judging classes to demonstrate the correct type of a butcher's bullock, strong emphasis always being placed on his smoothness and mellowness, as well as his trimness, quality and freedom from offal. University Joe was always a splendid feeder and never during the entire filling period was he off feed except for a day or two when he was dehorned.

A. McDONALD, Herdman, University Farm, Davis.

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University Joe. Purebred Hereford Steer, Developed and Fed at University Farm, Davis, Cal.

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have been arranged for by the Animal Husbandry Division of the University of California, and two of the largest live stock companies of the Pacific Coast.

One set of experiments, in which sugar-beet pulp is to be the base ration, is being carried on at the Bloomfield ranch of Miller & Lux at Gilroy. Here four carloads of steers are being experimented with. Different amounts and combinations of roughage, including alfalfa, barley, and rye grass hay, are being fed in conjunction with beet-pulp, with a view to determine which of the rations may be most profitably fed.

The more extensive experiments are being conducted at the feeding station of the Western Meat Company at Lovelock, Nevada. Many thousands of head of beef cattle have been fattened annually at this feeding center, but in the past alfalfa only has been fed, and the results have been considered satisfactory. With the upward trend of prices of meat, however, the question of the advisability of feeding grain in connection with alfalfa has become a live one, and this year for the first time grain is being fed by the Western Meat Company. The work is being conducted experimentally and in co-operation with the University of California, whose representative is in charge of the weighing of feed and cattle and the keeping of the records of the work. Six lots of steers averaging 225 head each are being fed on different grain rations. Corn, barley, cottonseed meal, dried beet-pulp, and Sperry feed are being fed to the various lots, and for comparison other weighed lots are getting alfalfa only. In one case the hay is fed long and in another it is chopped.

It is seldom that it has been possible for an institution to take part in such extensive experimental work as this and the results are being anticipated with great interest. That the new status of the meat market of the country will call for improved methods of feeding on the Pacific Coast is a foregone conclusion. That these experiments may help to blaze the way is hoped.

The University has a representative at each of the feeding stations named. Young men who have graduated from the University of California and who are demonstrating their ability to do things are handling the work.

A CORRECTION.

In Mr. Morgan's report of the International, published in the January Journal, it was stated that Ringmaster was made Grand Champion Shorthorn bull for the fourth time. This was an error which was the fault of the copy reader, as the original article was correct in stating that Ringmaster had been made Grand Champion Shorthorn bull for the third time.

CALIFORNIA BREEDERS MEET.

The twelfth annual meeting of California Live Stock Breeders' Association was held at Palace Hotel, San Francisco, January 10.

Unfortunately the attendance was exceedingly small as far as actual live stock breeders were concerned, and it is more to be regretted because it is doubtful if any previous session of this body has ever been the occasion for a more valuable and practical series of talks and papers.

For the ensuing year, A. W. Morris was elected President, Louis Titus First Vice-President, W. H. Saylor Second Vice-President.

In commenting upon the election of Mr. Morris as President, Judge Peter J. Shields, the retiring President, said that it was eminently fitting that a man who is doing such a great work in constructive breeding should be elected to the presidency of the asso-

ciation which stands for the highest ideals in California live stock breeding.

Mr. Titus is also destined to become one of the great constructive breeders of the State, if we may accept as evidence the class of Percheron horses which he is gathering to his stud.

The following resolutions were adopted:

No. 1. Resolution revising By-Laws: Resolved that Article 4 of the By-Laws be amended so as to make the annual dues of individual members \$5.

No. 2. Resolution revising By-Laws:

Resolved that Article 6 of By-Laws be amended so as to read: "Immediately after his election the President shall appoint an Executive Committee of twelve members, five of whom shall constitute a quorum."

No. 3. Resolution endorsing proposed State Fair Bonds:

Resolved that we heartily endorse the proposed issuance of Bonds in the sum of \$750,000, in aid of the California State Fair, and recommend that our members do all in their power to have the law in favor of such Bonds approved at the next Election.

No. 4. Resolution in favor of District Fairs:

Resolve that we favor the establishment of a limited number of District Fairs, with provisions for their efficient and non-political management, and their devotion to the exploitation of the State's Agricultural resources.

No. 5. Resolution inviting the National Live Stock Association to hold its annual convention in San Francisco in 1915:

WHEREAS, The livestock industry is to receive special recognition at the Panama-Pacific International Exposition, and

WHEREAS, The exhibits in which the members of this organization are particularly interested can be made of greater value if studied by a large number at the same time, and

WHEREAS, The importance of the livestock industry can be brought to public attention, and the objects of our Association can be advantageously emphasized if meetings of livestock men are included among the congresses and conventions that will be a feature of the Exposition, therefore

RESOLVED, By the California Live Stock Breeders' Association, that the 1915 meeting of this Association be held in San Francisco at such time after February 20th as the Executive Committee may select:

AND RESOLVED, That we hereby cordially renew the invitation heretofore extended to the American National Livestock Association to meet in San Francisco during the period when the Panama-Pacific International Exposition will be open,

AND RESOLVED, That the Secretary of this Association be directed to transmit to the convention of the American National Livestock Association a copy of this resolution, and that our delegates to that convention be instructed to co-operate with Mr. I. D. Graham, Assistant Chief of the Department of Livestock of the Panama-Pacific International Exposition, in efforts to secure the acceptance of the invitation.

In the Ayrshire Advanced Registry Report No. 26, dated January 13, 1913, the three-year-old class is headed by Willowmoor Lily 2nd, with a year's production of 11,113 pounds milk, 435.03 pounds butter fat. This young cow is owned by J. W. Clise, Redmond, Washington, and her performance adds further honor to Willowmoor herd.

H. B. Cowan of Modesto, California, reports the sale of two fine young registered Holstein-Friesian bulls, Teake Lyons Cloverdale 3d, and Teake Lyons Cloverdale 4th, to F. P. Allen, one of the Journal's Oregon readers; also Teake Lyons Cloverdale 2nd to

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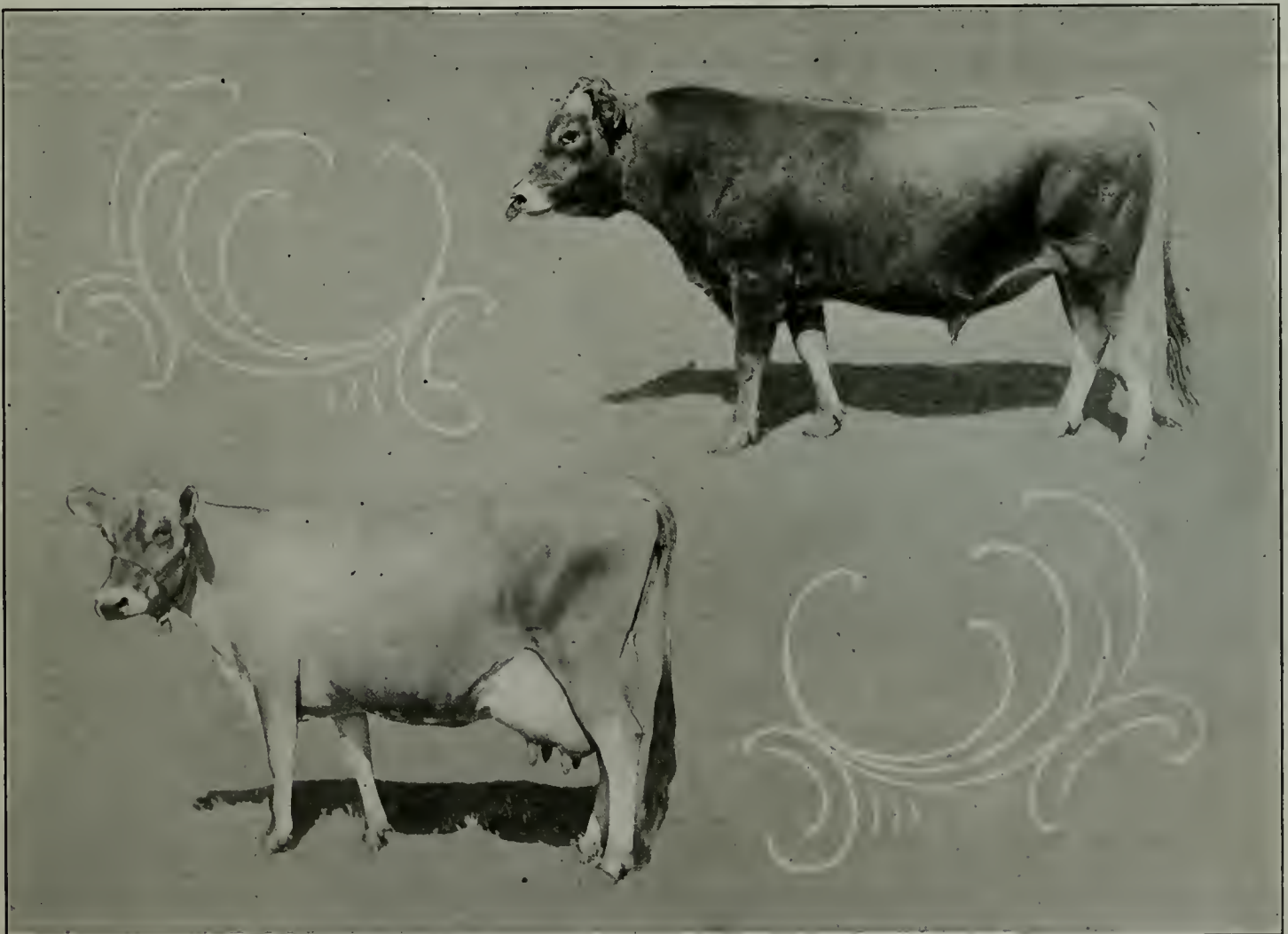
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Volume XIII. No. 3

MICROBES.

"Have not received the January number of *The Journal*. As I have an attack of the pure bred microbe at the present time, I do not like to miss a number. *The Journal* sort of keeps them working. F. W. White, Sacramento County, California."

The scientific folks tell us that there are good microbes and bad microbes. The bad microbes, if allowed to multiply and work their will, bring about a condition of disease and eventual death. But every bad microbe has a master in some good microbe. The problem is to select the proper good microbe that will vanquish the particular bad microbe that is causing the trouble, and to bring the two together under such conditions that the good microbe will be permitted to fight under the most favorable circumstances.

Now ever since the domestic or farm animal has been subserved to the needs of mankind, there must have been a bad microbe working in the minds of men to make so many of them find satisfaction in owning scrub animals year in and year out. This bad microbe has caused the farmer, thousands of him, to spend hard working days, and months, and years that finally stretched into a lifetime spent in a futile attempt to extract profit from a beast that was never intended by Nature to be a coiner of profit.

But away back hundred of years ago, a good microbe entered the mind of a man, and caused him to perceive that the beasts of the field were plastic creatures, yielding quite readily to the guiding human mind. He also noted that among them, some were better suited to his needs than others, and he conceived the idea that by selecting these better animals and controlling their mating, it might be possible to produce offspring which would come up to the standard of their parents. And the thing was done, and it became an established fact that some animals transmit to their offspring, with a considerable degree of certainty, their own desirable characteristics, as well as those which are undesirable.

Then the good microbe entered the mind of another man and caused him to perceive that in order to record the results of selective breeding, it was necessary to make a permanent record of sires and dams, that man

might still further mold the animal to his purposes through many generations of controlled or selective mating. And the thing was done, and the result was the first animal register or herd book.

Now we know that the name of this good microbe was the PURE BRED MICROBE, and today all over the face of the earth it is doing battle in the minds of men with the bad microbe which we now know to be the SCRUB ANIMAL MICROBE.

Microbes can be encouraged to multiply rapidly. Place a few in a culture or some substance upon which they can feed, and the few quickly multiply into millions.

We hope that every reader of *The Journal* has at least one good live PURE BRED MICROBE in his or her makeup, and that *The Journal* is the culture which will be the means of multiplying the one lone microbe into millions of its kind, and that the result will be the death of all the SCRUB ANIMAL MICROBES and the purchase of at least a PURE BRED SIRE.

CLEAN DAIRY PRODUCTS.

In California we have not yet finished skimming the cream of the earth in our dairy methods. It is so easy to make a little money with poor cows, poor methods, and poor equipment, that for the most part our dairies are not conducted on business lines. There is no doubt but that the average quality of California butter is of rather a low standard, due largely to the fact that in the keen contest among creamery operators for raw product, unsanitary methods of production are overlooked and good butter can not be made from poor cream. Many dairymen, having no knowledge of the text of California State Dairy Law, look upon it as a burdensome thing if complied with, and a law to be evaded if possible. This law is exceedingly mild in its requirements, and there is not a clause in it that should not be complied with by every dairyman in the State, not because it is law, but because it is good business practice. The future of our dairy industry will not rest upon the production of quantity alone. Our markets are going to demand quality as well, and in the supplying of quality, the dairyman whose methods are lax and product unclean, is going to fall by the wayside, blaming the business for being an unprofitable one. There is probably no single factor which has contributed so largely to the continuation of the scrub cow, the unsanitary plant, and the poorly farmed dairy farm in this State, as has the high price paid for inferior cream.

DEVELOPING THE HERD BULL.

We recently had occasion to learn something of the methods of one of the large coast establishments breeding dairy cattle. The herd has been carefully developed with a definite dairy product in view, and the very substantial things which have been accomplished are largely due to the quality of bulls selected to head the herd. It is interesting to note that it is a matter of policy in this herd to buy their sires as calves and develop them themselves. Not only are bull calves bought, but they are usually bought by mail. With an extended pedigree and a photograph of the individual before him, the buyer for this herd has so far been able to select at long distance the calves which have later developed into grand herd bulls. This herd is one of the increasing number whose owner has recognized the advantages of buying bull calves, rather than waiting to get an uncertain choice at breeding season time.

WHAT IS ACCOMPLISHED BY TESTING COWS.

Under this heading the American Jersey Cattle Club publishes a little booklet which is so full of meat, or rather butter fat, that we copy freely from it. It presents facts which are of the utmost importance, both to breeders of pure bred dairy cattle, and to owners of grade dairy herds, and suggests in terms of dollars and cents the common interest which both the dairyman and breeder have in test work, authenticated or official for the breeder, association work for the dairyman. The booklet is prefaced by extracts from an article written by W. W. Marsh, of Iowa, who has an international reputation as a breeder of Guernsey cattle, who says:

"Advanced registry work has placed the production value of cows on a scientific basis, and substituted accuracy for opinion and guesswork. . . . Advanced registry work will be the cornerstone of all breeding operations in all the dairy breeds from now on. . . . But the structural beauty of the cow will always claim the attention of the constructive breeder. . . . The rewards of success, both financial and otherwise, will go to that breeder who is able to combine great capacity with beauty of form. There is utility in beauty; there is beauty in utility." —W. W. Marsh in *The Breeder's Gazette*.

The body of the booklet begins with the following, compiled from the address of M. S. Schrock, before the 1913 convention of Oregon Dairymen's Association.

1. The test not only points out the poor cows, but the good ones also. Many cows considered only average are found to be the best in the herd when real records supersede the guess system.

2. Under the guess system, and in the absence of records, sentiment is a strong factor in selecting the cows worthy of being retained in the herd, also the cows from which heifers are to be kept. A cow's disposition and temper enter seriously into the matter. With accurate records such minor things are overlooked in the real producers, and a bond of friendship develops between the milker and the producing cow.

3. Persistency of milk flow, the one qualification that outranks all others in worthy cows, is very difficult to recognize under the guess system, but it is easily brought to the owner's attention through the test.

4. The test records are very valuable in later years as reference, both in feeding and managing the herd.

5. The test develops better feeders, deeper thinkers, better dairymen, and better dairy methods. It checks overfeeding as well as underfeeding, and insures net profits.

6. The monthly visit of the tester, the conversations held with him, and the tendency it creates to increased discussion with the neighbors, help to broaden the mind, induce reading and studying—in fact, make better dairymen and better citizens.

7. Cows from regularly tested herds sell for more money, and so do their offspring.

8. The hired man takes greater interest in his work.

9. The most important of all is the fact that no one other factor so in-

terests the boys and girls and attaches them to the farm and the dairy as that of accurate and systematic records. For boys and girls nowadays are taught definite things in a systematic way. They would like to have a chance to apply on the farm the things they learn in school. Our old-fashioned methods do not interest them; the newer ones do. If you do not believe that records of dairy cows are interesting to children, try it on any of your youngsters and you will soon be convinced.

Then getting down to actual dollars and cents in regard to official records of purebreds the following is taken from *Kimball's Dairy Farmer*:

"During the past year (1913) a member of the Dairy Department of the University of Illinois kept a record of the prices which were paid for animals whose production was established by official records, and also for animals that had no such recommendation. In five sales 187 cows without records averaged \$288 per head. In the same sales 171 cows having records averaged \$465 per head. In other words, the men who kept records were paid just \$177 per cow for keeping these records. Naturally, they were official statements—that is, they were records established and vouched for by the breed association. Furthermore, with regard to the heifers, 184 that came from dams who had no official records brought an average of \$209 per head, while 133 whose dams had official records brought an average of \$341 per head. Thus in the offspring that had not yet reached the milking age the record of the dam was worth \$132 per cow.

"The question has often been raised, Does it pay to spend the time and the money necessary to make a record, either official or otherwise? It would seem that these figures show conclusively that it does pay. Certainly one can afford to make a yearly record for \$177, and perchance the cow is producing a heifer calf. If the two were placed in the sales ring, the yearly record becomes worth \$309, which isn't a very bad showing.

"In addition to these prices, the value of the record is reflected; that is, other cows in the herd are influenced by the work that is done by the advanced registry cow. The man who has record cows in his herd is going to have less trouble selling other stock than the man who has no record cows."

These figures seem to go far to set aside the excuse that is occasionally made by a breeder of pure bred dairy cattle, that the cost of official testing is prohibitive in his particular case. Official testing at the present moment is the highest class gilt edge investment that any breeder of dairy cattle on the Pacific Coast can make. It will require some capital at the beginning, and it may show up some cows that the owner would otherwise favor, but the most desirable market for registered dairy bulls of all breeds is even now among the buyers who want advanced registry figures, and that demand is going to grow as dairymen become better informed as to the dollars and cents relation which advanced registry has to the future of their dairy herds.

ANOTHER 30 POUND CALIFORNIA HOLSTEIN

Just as the *Journal* goes to press comes the news of a young Holstein cow in the A. W. Morris & Sons herd at Woodland, Cal., that is likely to set a new state mark for seven days. She is Luit Burke, a junior 3-year-old, and has already made within a small fraction of 33 pounds of butter in seven days. As she is still gaining, it is more than likely that she will pass the 33-pound mark before the week is out.

THE DAIRY

THE DEVELOPMENT OF A DAIRY HERD

(From an address by G. A. Dimock before Michigan Dairy Association.)

The successful breeder must have a clear, concise conception of the type he wishes to establish and with his ideal constantly in mind must cheerfully give unlimited time and thought to the characteristics of the animals he wishes to produce. He should have a clear understanding of the "scale of points" or characteristics that go to make up the perfect animal. He should not only be a careful and impartial critic of his own herd, but should also take advantage of every possible opportunity to study the greatest individuals of the breed. He must be a man of courage and strong convictions, but big enough to admit the possibility of mistakes when made. He must be a close observer and a careful student of cause and effect. He must be steadfast in his purposes and not seek one ideal today and another tomorrow. Above all else he must enter into the spirit of the game with an earnestness and enthusiasm that will make the work a matter of joy and pleasure rather than of labor.

Having mentioned these few qualifications which we believe every successful breeder must possess, we will next consider, in what seems to us to be their logical order, the means to be pursued in the successful development of the herd. In this discussion we will confine ourselves to the subjects that seem to us of the utmost importance, or, in other words, to the things that we believe every man must consider who wishes to realize any degree of success in the development of his herd.

With a herd to develop we believe the most important subject to consider is the sire to head the herd. In some things we may make mistakes and still reap a moderate degree of success, but if we make a mistake in the choice of a sire we are sure to go backwards instead of forwards, and thus lose an opportunity for the betterment of the herd. When we remember that the sire that is mated with a given number of females has as much to do with the character and value of the offspring as all of the females combined, we can well understand that "the sire is half the herd." If the sire is more strongly bred than the females he is apt to be more prepotent and therefore has more influence in determining the characteristics of the next generation than all of the females combined. Each well chosen sire that is mated with a herd should give at least 50 per cent of his character to the next generation so that the direct descendants of the fourth sire used in succession retain only a little over six per cent of the original blood; and nearly 94 per cent of the blood of that generation is of our own choosing.

When we are thus able to transform the character of the herd in such a short time the great importance of a proper choice of sires cannot be overestimated. If poor udders, sloping rumps, lack of butter-fat, or any other given defects exist, a sire that is subject to the same defects will make those defects more marked; but by a wise choice of sires these defects may be remedied. Prof. Eckles of the Missouri Agricultural College, in comparing the daughters of two sires that were used in the same herd, wrote as

follows: "Counting the milk at \$1.50 per hundredweight, the income from 30 daughters of Lorne of Meridale would exceed that from the same number of daughters of Missouri Rioter by \$6,467 in six years." In this statement Prof. Eckles does not take into consideration the great difference in the value of the stock, but simply considers the milk at \$1.50 per hundredweight. Six years is a very short period for the average life of a cow and in a reasonably large herd a good sire should produce at least 30 daughters each year, so we believe it is perfectly fair to consider \$6,467 as the yearly difference in the earning ability of the two sires.

During the past year M. H. Gardner, our superintendent of advanced registry, has given us the benefit of his early experience in the choice of sires and the dairy papers of the country, and the agricultural departments of the various states are continually urging the importance of using better sires. A good sire is a paying investment at almost any price, but a poor one is worse than absolute loss even though his cost is nothing. With those facts in mind, the successful breeder will earnestly strive to have each sire that comes into his herd better than the preceding one, and if he succeeds in this he must move forward in the development of his herd.

Among other things to be considered is the proper development of the young stock. Good breeding will do much but it cannot do everything, and the man who wishes to see his herd improve year by year must give very careful attention to the development of the calves. Much might be said on the subject, but we will only touch on a few of the most important features. As a rule the first feed of the new-born calf should be from the mother's milk, being careful that the calf does not over-eat. The young calf should be fed three or four times per day, receiving only about two pounds of milk at a feed if fed four times per day. The milk should always be at blood heat and fed from absolutely clean pails. If the pails have been scalded at each feed, so much the better. Regularity in feeding is as necessary as cleanliness. At all times the calf should have a clean, dry bed and plenty of good, pure water. As soon as the calf is old enough we should keep good hay within its reach and believe that a mixture of bran and oats with perhaps a little charcoal makes a very desirable grain mixture. It should also have salt within its reach. The milk should always be sweet and the change from whole-milk to skim-milk should be made very gradually. We believe that the milk as fed should be carefully weighed so that the ration may be gradually and carefully increased. We believe that most of the difficulty in raising calves is due to carelessness rather than to lack of knowledge. When the calves have reached the age at which they can consume a reasonable amount of grain, we believe in giving them a good generous ration made up of food that will have a tendency to produce bone and muscle rather than fat.

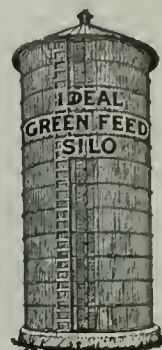
In the care of the herd and the development of the young animals, constant watchfulness must go hand in hand with a thorough understanding of the business and the successful breeder must be a man who believes in doing things today, not tomorrow. He must give close personal attention to all details pertaining to the herd

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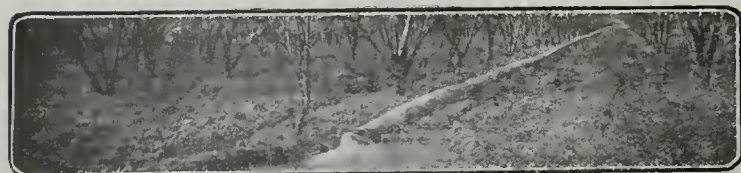
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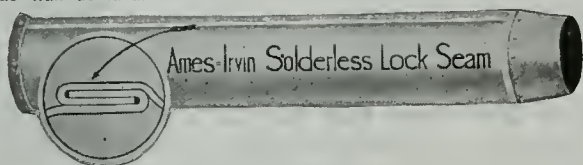
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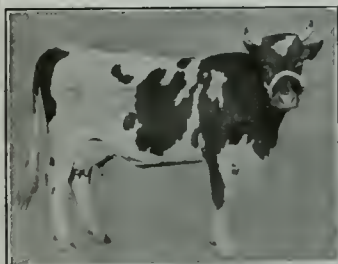
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and must be thoroughly in love with his work as have been the great breeders of the past. Sometimes the hours of labor are long and nothing but intense love of the work and a great pride in the results accomplished will give to the weary muscles power to go on and complete the task. Not only must he love his work but he must feel a personal interest in each member of the herd and should look upon them with a feeling much nearer akin to love than he could possibly feel for a mere machine. I know of nothing that will give better returns in the care of the cow than gentleness and kindness, and I have sometimes thought that it was fortunate that every act of neglect and cruelty carries its own punishment with it. The unailing laws of nature are such that no man can abuse the animals that are within his care without paying the penalty. The highest degree of success and profit never go hand in hand with neglect and cruelty.

It was Emerson who said in substance that if a man could produce a better mouse trap than anyone else that the world would beat a path to his door, and if a man can only produce a little better stock than anyone else the world will come to him. One of the richest men in Scotland, on being complimented on his magnificent fortune, replied, "I never tried to make a shilling. But I did try to make the finest goods in all the kingdom and the money made itself." To a very great extent this thought applies to many of the transactions of this life and often the man who receives the largest financial returns is the man who really thinks the least of the dollars to be had. I suppose that none of us can afford to be indifferent to the profits to be derived from our herds, but I am sure that the man who is not blinded by the glitter of the almighty dollar but who loves his work and seeks success for the sake of succeeding will in the long run reap the richest harvest.

With animals that are well bred and carefully reared, we come to one of the most important, if not the most important, element in the successful development of a herd. I refer to official and semi-official tests. Before the tests are made we have the raw material. It may be of great intrinsic value but just what that value is no one can say until it has received the official stamp of Superintendent Gardner. With the help of the scales and the Babcock test he is able to measure the capacity of our cows and tell us as near as human skill can determine just what they can produce. They come to him in the rough and as an unfinished product. He classifies them according to their ability to produce and his official stamp of recognition gives them a definite rank and to a large extent a definite value. The making of official and semi-official tests is so thoroughly hedged in by every possible safeguard and precaution to insure a fair and honest deal to all that no one can doubt the reliability of the tests.

Comparison is the great criterion of the commercial world and through it men are able to choose the best of whatever they buy in the markets of the world. By the aid of official and semi-official records we are able to compare the merits of our cows with a degree of accuracy entirely unknown prior to the use of these tests. It is true that the conformation of the animal must be taken into consideration, but with the individuality and record combined few mistakes should occur.

In our opinion the breeder of Holstein-Friesian cattle who does not take advantage of the benefits to be derived from the official and semi-official tests is making the mistake of a lifetime. I believe that such breeders are continually throwing ore that is nearly all pure gold onto the dump

pile. Now and then they have the satisfaction of seeing some one make a small fortune from the material that has passed unappreciated through their hands, but how much greater would have been the benefits if they could have made the records themselves. A large record not only adds greatly to the value of the animal that makes the record, but its benefits extend several generations into the past as well as into the future. These records are not only of great value in aiding us to decide on the most desirable combination of blood to make in breeding, but they add value to our herds faster and surer than anything else that we can do.

VENADERA JERSEYS MAKE

SPLENDID R. M. RECORDS.

There is no herd of registered dairy cattle of any breed in California, where the idea of authenticated test work for butter fat production has been carried out as fully as it has in Venadera herd of Registered Jerseys, owned by Guy H. Miller, Modesto, Cal. Mr. Miller seems to have been the first California breeder to recognize the great importance to the dairy interests of having available for dairy herd headers, bulls out of dams of known production. If Mr. Miller was not the first local breeder to recognize the value of authenticated tests, we must at least concede to him the distinction of being the only one who carried out the idea consistently and persistently, until today every cow in his herd, except one heifer not being tested and three or four now on yearly tests, is in the Register of Merit.

There is another feature of Venadera Herd, that has always been a source of comment among all men who have seen the herd and who are able to appreciate the difference in Jerseys. That feature is a certain type which prevails throughout the herd, and which must be accounted for as being the type which Mr. Miller has had in his eye during the many years he has spent in building his herd to its present high standard.

Even the novice in Jersey knowledge is struck by the uniform appearance of deep body, rugged constitution and great producing capacity which runs through the entire herd. Some of the really good producers in the herd can not be rated as the highest type of show cows judged by the prevailing standards of judging, yet the herd contains two cows that have been Grand Champions at California State Fair, and the present head of the herd, Altama Interest, has been for the past two years, Grand Champion Jersey bull, at our State Fair. So it is apparent that while the type developed in Venadera herd has proved a highly productive one, it has at the same time won favor in the eyes of our best judges.

The history of the herd confirms the belief of the writer that its present type represents very truly the kind of Jersey cow Mr. Miller has had in his eye since the beginning. It appears that when he selected his foundation stock eighteen years ago, he bought a number of cows that pleased him as to general conformation. However, when the Babcock tester was brought into action, a number of the original members of the herd were unable to hold their places through simple beauty of form, and as a result the present members of the herd are nearly all descendants of three cows. There has not been a cow brought into the herd by purchase for about ten years now, but the selection of new blood through the sire has been the means through which

the herd has been improved. The present herd sire, Altama Interest, was selected after consideration had been given to other bulls from most of the leading herds of the United States, and there is every reason to believe that his blood will result in a still higher standard of excellence in Venadera herd.

As noted before, all of the cows in the herd except a few helpers, are in

the Register of Merit. There are eight on yearly tests at the present time, and a number have quite recently finished their year's authenticated work.

Of the latest ones to finish, Pearl of Venadera made the best record. In 365 days she yielded 9968.8 pounds milk, average test 6.03 per cent, butter fat production 601.27 pounds. We confidently expected this cow to go over 625 pounds of fat but she proved to be quite affected by a prolonged cold fog during the last month of her test and fell off quite a bit. Her record, however, establishes her as the second highest producing Jersey in California, and she should be able to set even a higher mark later on.

Breeders doing test work may be interested in knowing the ration upon which Pearl of Venadera made her great production. There was no record kept of the amount of alfalfa hay she consumed, but of grain and concentrates she had 3042 pounds crushed barley, 883 pounds coconut meal, 80 pounds corn meal, 28 pounds bran. She had green pasture for one month during the year, and had a ration of green corn for one month. The feeding records of all of the cows tested show that alfalfa hay is supplemented chiefly by crushed barley and coconut meal.

Goldie of Venadera, as a junior three-year old, produced in 365 days, 8,910 pounds milk, yielding 469.39 pounds butter fat. This young cow will undoubtedly be heard from again later on.

Belle of Venadera finished a year's work with 8,350 pounds of milk, 461.8 pounds butter fat.

Amethyst of Venadera, a senior three-year old, made a mark for the year of 6,186.9 milk which contained 391.345 pounds butter fat.

There are some very choice heifers coming on in Venadera herd, and in the course of a year or so we shall hope to make mention of the performances of Altama Interest's daughters.

J. S. Rhodes of Stanislaus County, California, reports to the Journal that he has sold the registered Holstein-Friesian cows Viola Pietertje Hengerveld De Kol and Vina De Kol Mechthilde to W. A. Garvey of the same county, and to J. W. Bashar of Fresno County the registered cows Jeek Hengerveld De Kol, Hermana Bonita De Kol, and Consarte Hermana Ignara. These two lots are foundation for pure-bred herds.

MOVEMENTS OF JERSEY CATTLE

For the five weeks beginning December 13, 1913, and ending January 16, 1914, The American Jersey Cattle Club issued registration on 880 bulls and 1710 females. During the same period there were recorded 1038 transfers of bulls and 2418 transfers of cows.



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R. No. 2. TURLOCK, CAL.

REGISTERED JERSEYS

Young Bulls and Heifers for sale. Sired by Interested Monplaisir and out of St. Lambert cows. Call or write for prices.

J. F. SNOVER

R. 2. CERES, CAL.

VENADERA HERD of Registered JERSEYS

Guy H. Miller, Prop.

MODE TO CALIFORNIA

REGISTERED JERSEYS

Five of my cows have completed authenticated yearly tests with an average production of 457 pounds butter-fat. Two of them are heifers with first calf. I have a few young bulls out of tested dams and sired by PANSY'S GERTIE LAD, whose dam produced 537 pounds fat in 365 days with second calf. Write for prices or come and see the herd. Bulls of this breeding sell rapidly.

D. F. CONANT

R. 5, Box 64. MODESTO, CAL.

FIRST ANNUAL CONSIGNMENT SALE OF

Registered Jerseys

BY CALIF. BREEDERS AT PUBLIC AUCTION

APRIL 2nd, 1914

ON G. O. HILLIER JERSEY FARM, MODESTO

96 Head — 96 Head

Consignments by G. O. HILLIER, Modesto;
J. N. LESTER, Corcoran; W. A. BRADLEY,
Turlock; R. L. WALTZ, Hanford.

A magnificent offering of some of the best individuals of blood lines in America. Famous Bulls, such as KING POLO OF BLEAK HOUSE, GERTIE'S SON, MARQUIS OF T.

Over 70 head of Females. Many Register of Merit Cows with wonderful records. The best selection of Registered Jerseys ever offered for sale in California.

A WRITTEN GUARANTEE WITH EVERY ANIMAL SOLD

APPLY G. O. HILLIER FOR CATALOG AND PARTICULARS.

G. O. HILLIER, Sales Manager,
Modesto, Cal.

B. A. RHOADES, Auctioneer,
Los Angeles, Cal.

BREED for INCREASED FAT PRODUCTION

By using a Pure-bred Jersey Bull carrying the blood of heavy producers. I offer a 13-months-old Registered Bull, sired by General Grimm and out of Lady Burdette 4th, an Inbred Grand Rotor Cow that milked 33 pounds of 5.1% milk in one day with first calf. This Bull is a good individual, solid color. Price \$125.00.

WILLOWWOOD JERSEY FARM

C. G. McFARLAND, Prop. R. 2

TULARE, CAL.

WE LEAD IN JERSEYS

We are unable to fill our present demand for Jersey helpers, and have no more for sale.

We offer a few richly bred Bulls, ranging in age from 8 to 18 months. Write for breeding and prices.

Rancho Dos Rios, R. L. WATSON, R. F. D. 2, Modesto, Cal.
Manager

JERSEY TYPE

JERSEY QUALITY

We have a few handsome, vigorous young bulls out of our best cows and sired by MERRY MAIDEN'S CONQUEST, a son of MERRY MAIDEN'S 3D SON, Grand Champion Jersey bull at St. Louis Exposition.

By owning one of these bulls you can introduce into your herd the blood of one of the best bulls of the breed.

Come and see our herd or write your needs. Prompt attention to correspondence.

B. & F. RANCH, F. O. FRAZIER, COVINA, CAL.

YELLOW JERSEYS

BEAUTIES sired by Gertie's Lad, out of authenticated test cows, ages up to 5 months. Prices right.

The get of Gertie's Lad are ALWAYS SOLID COLOR, and he sires cows that give 7 gallons of rich milk a day. Buy one of his sons NOW. They sell young.

I have two yearling heifers, handsome, thrifty, sired by Olga's Mella's Pogs (92000). Price right.

Papers free will all stock. Tuberculin tested herd. I keep no grades. Nothing but REGISTERED JERSEYS.

X. CARRITHERS, R. 3, Box 105, Tulare, Cal.

Reference, First National Bank of Tulare.

UNIFORM QUALITY

In the dairy herd is an asset, whether the cows are grade or pure-bred. Uniformity is brought about most quickly through the use of an individually good bull of high prepotency.

Our herd bulls, IMP. KING'S VALET and BORELLO'S GOLDEN LADIE, have proved their prepotency by several crops of calves of high excellence and uniform type, many of which are undefeated in the show ring.

We offer a few young sons of these proven bulls, and out of dams of quality and productive capacity.

Put one of these handsome youngsters in your herd and lay the foundation for a uniform lot of good cows. Our prices are well within the means of any dairyman.

Visitors are welcome at our farm. Mail inquiries receive prompt and careful attention.

N. H. LOCKE CO., Locketford, California
NO FEMALES FOR SALE AT PRESENT

RHOADES & RHOADES

EXPERT LIVE STOCK AUCTIONEERS

HORSES, HOGS, COWS—Sales Conducted in All Parts of California and Adjoining States. Write for Dates and Terms.

OFFICE, 1501-3-5 SOUTH MAIN STREET,

LOS ANGELES, CAL.

DE LAVAL Cream Separator

The most important machine used on the farm

SOME BUYERS OF CREAM separators do not stop to think why their purchase of the best cream separator is of greater importance than the purchase of any other implement or machine of any kind used on the farm, or for that matter anywhere else.

NEARLY EVERY PIECE OF farm machinery is only used a few weeks during the year, if that long, and when it is used simply saves time or labor over some other way, with comparatively little difference between makes of such machines except in design or size or possibly that one is better made than another and so lasts longer, and probably costs more proportionately.



THE FACTS ARE VERY DIFFERENT in the case of the cream separator, which is used twice a day every day in the year, and very different as between De Laval and other cream separators because the use of any other separator or creaming system involves not only the saving in time and labor a De Laval machine would effect, but an actual waste in quantity and quality of product a De Laval machine would save.

The Cream Separator or the most wasteful or most profitable

THIS IS THE VERY GREAT difference that makes the cream separator the most important of farm machines, the most wasteful or the most profitable, because used so often and involving a waste or a saving every time it is used. This is the reason why there are more De Laval separators in use than any other kind of farm or dairy machines the world over, and more than all the other makes of cream separators combined.

NO MATTER WHETHER you have yet to buy a separator or are using an inferior machine, you must be interested in what a De Laval—not a 10, 20 or 30 year old one, but a De Laval machine today—would do for you, and that every De Laval local agent will be glad to make plain to you by the demonstration of a machine itself.

IF YOU DON'T KNOW THE nearest De Laval agent, simply write the nearest main office as below.

DE LAVAL DAIRY SUPPLY CO.

165 Broadway New York 101 Drum St. San Francisco

1016 Western Ave. Seattle

50,000 Branches and Local Agencies the World Over.



Lily of Willowmoor. In the Registered Ayrshire Herd at Willowmoor Farms, Redmond, Wash.. Owned by J. W. Clise. This Cow was the Third World's Record Cow developed at this farm. On Official Test she produced in one year, 22,106 pounds Milk, 888.70 pounds Butter Fat, equal to 1037 pounds 85 per cent Butter.

NOTES.

Two fine registered Jersey bulls were sold by N. H. Locke Company, Lockeford, Cal., late in January. Letty's Valet of L went to A. W. Dado, Sonoma County, and Valet's Native Son of L went to the herd of R. L. Jenison, Los Angeles County. Both of these buyers are fortunate in securing promising sons of King's Valet.

D. F. Conant offers some very choice young Jersey bulls out of R. M. dams in this issue. The authenticated tests conducted in the Conant herd have brought out a very high average production, and the state needs more of the kind of breeding bulls that are out from this herd.

In the classified columns of this issue F. E. Thayer offers a small herd of registered Jerseys for sale. Although we have not seen the herd, the price looks very attractive when the breeding is considered.

There is a good buy offered in Shetland ponies in this issue, by H. T. Morgan, Glenn Ellyn, Ill. M. Morgan is one of the most reliable breeders of the East and he says that these ponies are GOOD.

Herbert, Vogel & Mark, the big San Francisco manufacturers of water tanks and stock watering troughs, have recently moved into larger quarters at Eighteenth and Indiana Streets. The high quality of product turned out by this firm has resulted in a volume of business which completely outgrew their formed quarters.

James McCord is offering some good jacks in this issue. Down the San Joaquin, Uncle Jim is to well known to need any introduction, the quality of his breeding stock having been established for years.

Charles R. Hanna, Riverside, Cal., recently brought out from the East a number of high class Poland-Chinas to be added to his Glenview Herd. There is a rapidly growing demand for high types of hogs in Southern California, and the presence of a well bred herd of registered stock such as Glenview, makes at least a limited number of good ones available to the farmer who is starting to breed up.

PRICKLY PEAR CACTUS AS A FEED FOR DAIRY COWS.

With a view to ascertaining the value of the prickly pear cactus as a feed for dairy cows the Dairy Division of the Bureau of Animal Industry in co-operation with the office of Farm Management of the Bureau of Plant Industry, United States Department of Agriculture, conducted a series of experiments, 1911-1913, at Brownsville, Texas.

Following is a summary of results obtained:

Prickly pear was found to be very palatable, and when judiciously fed, was in no way detrimental to the cow or her product during the two years' trial.

The most satisfactory amount was sixty to one hundred pounds of the pear per cow per day, depending upon the size of the cow and upon the yield of milk. With this medium ra-

Abortion in Cows

Can be checked and eradicated from a herd by Hood Farm Abortion Remedy and Hood Farm Breeding Powder. Write for full particulars. Do not experiment, but use Remedies of proved value.

C. I. HOOD CO., Lowell, Mass.

REGISTERED

HOLSTEIN-FRIESIANS

H. B. COWAN

Box 512

MODESTO, CAL.

MOORLAND FARM

HOLSTEIN-FRIESIANS

Offers for sale a splendid six-months-old Bull Calf with good A. R. O. backing.

K. W. ABBOTT, Milpitas, Cal.

REGISTERED

HOLSTEIN-FRIESIANS

Increase the value of your herd by introducing the blood of the greatest producers of the breed. We offer a number of Choice Grandsons of King Segle. Also a number of Grandsons of the world's record cow, Creamella Vale. Write or call and inspect our herd.

F. & H. STENZEL, SAN LORENZO, CAL.

CREAMCUP HERD

HOLSTEIN-FRIESIAN CATTLE and O. I. C. SWINE

Bull Calves for sale from A. R. O. dams, sired by a grandson of King of the Pontiacs, also by a son of Colantha Johanna Lad.

M. M. HOLDRIDGE,

WOOD COLONY. MODESTO, CAL.

REGISTERED

HOLSTEIN-FRIESIANS

Herd Headed by

Juliana King of Riverside

One of his young bulls, also one sired by Cornelia King and out of high producing dams, for sale.

B. F. ANDERSON,

ROUTE 2, MODESTO, CAL.

REGISTERED

HOLSTEIN FRIESIANS

FOR SALE—A yearling grandson of the great King of the Pontiacs. Also a few younger.

WANTED—A herdsman with grown-up son who can milk, to take charge of a small herd of purebred Holsteins. References required.

McALISTER & SON, CHINO, CALIFORNIA.

Holstein - Friesian Cattle

A Few Choice Registered Bulls and 25 Choice Registered Heifers. Prices on Application.

CHAS. JAY WELCH, Los Banos, Cal.

Heavy Milkers

Young Cows

140--Grade Holstein Cows--140

At Auction March 20 and 21

Having sold my lease on the Diepenbrock Ranch, on the above dates I will sell all my Grade Cows without reserve to the highest bidder.

Over one hundred cows in milk, and about forty springers. This stock all came from the East and are now in their prime. All are five and six years old, and all mated with Pure Bred sires.

This herd has the reputation of being the highest milkers in Northern California.

Sale will be held at 21st and Y Streets in Sacramento. Take 21st Street cars.

I will also sell two young Pure Bred Bulls and six Pure Bred Heifers of choice breeding. Pedigrees of these will be furnished at sale.

E. J. Weldon

Box 962, Sacramento, California

tion the cows looked thrifty, and there was no detrimental effect upon the size and vigor of the offspring or upon the cow after parturition. Larger quantities of the pear caused a very laxative condition of the bowels and kept the stable in a more or less insanitary condition. Chemical analysis showed that the pear was low in protein, high in mineral matter, and contained from 87 to 93 per cent of water. This analysis, and also the feeding trials, indicated that the pear should be used with some dry feed containing a large amount of protein, and that the pear on account of its high mineral content is a good feed to give with a ration deficient in mineral matter, like cottonseed hulls.

When compared with other common roughages in Southern Texas, the pear was found to have the following relative value for the production of milk fat:

One pound sorghum hay, equal to 10.1 pounds of pear;

One pound sorghum silage equal to 3.3 pounds of pear;

One pound cottonseed hulls equal to 8.8 pounds of pear.

The sorghum hay in these experimental rations was about the average quality, while the sorghum silage was below the standard. By substituting sixty to seventy-five pounds of pear for a portion of the dry roughage the percentage of fat in the milk was decreased 0.42 per cent on an average. It also decreased somewhat the total amount of fat and the percentage of solids not fat but increased the total yield of milk. Like pasture grass, the pear produced a higher colored butter than did the dry feed. The flavor of the milk and butter was not impaired in any way.

A good daily maintenance ration for grade Jersey cows when dry was found to be as follows:

Four to six pounds sorghum hay, one pound cottonseed meal and sixty to 100 pounds of pear.

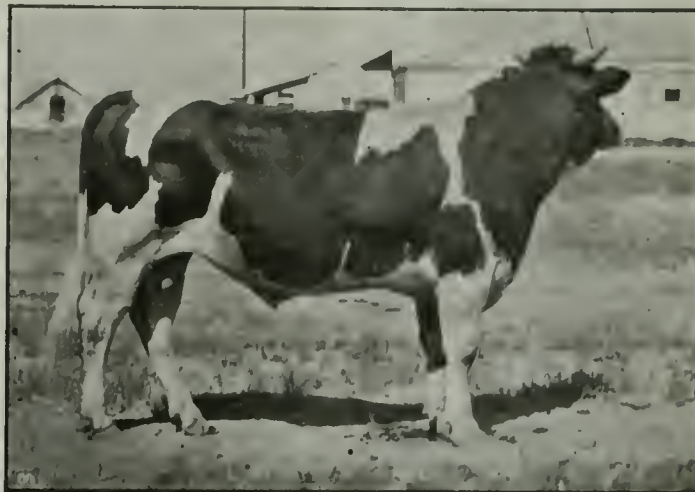
Two dry cows were maintained for fifty to sixty days, respectively, on 113 and 105 pounds of pear per day with two pounds of cottonseed meal as a supplement. One cow fed pear alone for seventy days lost thirty pounds in weight. Another cow died from stoppage of the small intestine with balls of fiber, when fed on pear alone. Cows fed pear appeared to be more sensitive to cold weather than when fed dry feed. This was borne out by the decrease in milk production following "nothers." Those receiving a heavy ration of pear decreased in milk flow 7.46 per cent, and those receiving only dry feed 1.91 per cent. Cows fed no roughage except pear, drank no water for days at a time and then only a few swallows; those fed 150 pounds per day drank an average of five pounds daily; those fed seventy-five pounds, drank thirty pounds daily; those on dry feed drank sixty-nine pounds per day on an average. From these results it appears that pear is a valuable feed where there is a scarcity of stock water.

Working at the usual rate, one man using a gasoline torch could singe one ton of pear in fifty minutes with one and two-thirds gallons of gasoline. After singeing, the pear can be harvested by cutting and hauling to the feed lots, or the cattle can be turned into the field. The latter method is more wasteful of the feed but requires less labor.

The average yield at Brownsville, Texas, under very favorable conditions, two years from planting, was eighty-five tons per acre per year. The growth from old stumps is considerably greater, amounting in one test to over two hundred tons per acre for the two years' growth. These yields were made under good dry-land culti-

FAMILIES MOST FAMOUS IN HOLSTEIN HISTORY

are represented in young hulls that we are offering.



Segis Pontiac De Kol Burke, one of our herd sires.

LOWER BUTTER PRICES and HIGH COST OF PRODUCTION demand that the EFFICIENCY of your dairy be increased. You can do this only by using a bull bred in lines that are producing results.

Years of breeding have proven that great cows transmit their production, mainly, through their sons.

We offer a few bull calves at prices within the reach of any dairyman. Their dams are in yearly test and are making good. Sons of KING SEGIS PONTIAC EMPEROR, who, in respect to breeding, has no superior. Dams of best breeding and producing as high as 400 pounds fat with first calf.

We have for sale a calf born July 11th, Sire Prince Gelsche Walker, whose five nearest dams average 30.16 pounds of butter in 7 days. The butter records of his seven nearest dams average higher than those of any other bull in service on the Pacific Coast. Calf's dam, AAGGIE NETHERLAND HENGERVELD, 20.52 pounds of butter in 7 days, at 4 years, and 20.30 pounds in 7 days at 10½ years, from three quarters. Her 2-year-old daughter has just made 20.80 pounds butter in 7 days. Her yearling daughter, full sister to this bull, was first prize yearling at State Fair, 1913. AAGGIE NETHERLAND HENGERVELD is sired by a son of the great foundation cow, NETHERLAND HENGERVELD (26.67 pounds). He combines the best breeding with show type, and for a herd sire, leaves nothing to be desired. He will sire the kind of cows that are in demand at \$100 to \$150. Price, \$250.00.

WRITE FOR FURTHER PARTICULARS

A. W. Morris & Sons Corporation
WOODLAND, CAL.

MILLBRAE DAIRY HOLSTEINS

PROPERTY OF ESTATE OF D. O. MILLS

Some of the most productive blood lines of the Holstein-Friesian breed are represented in our herd of 250 registered individuals.

Many of the cows in the herd are sired by such bulls as SIR HENGERVELD DE KOL, ADMIRAL PAUL BEETS DE KOL, and SARCASTIC LEGISLATOR.

We now have among our herd bulls, RAG APPLE KORNDYKE CLOTHILDE and KING PONTIAC MUSA NETHERLAND. The former is a grandson of RAG APPLE KORNDYKE and SADIE VALE KORNDYKE, a 30-pound daughter of PONTIAC KORNDYKE. KING PONTIAC MUSA NETHERLAND is sired by KING OF THE PONTIACS and out of a dam that traces five times to DE KOL 2nd, the greatest transmitting cow of the breed.

At present we offer a few young bulls sired by SARCASTIC LEGISLATOR. His calves are always uniformly good, and the ones we now have are some of his best.

Correspondence Invited

Visitors Welcome

WE HAVE NO FEMALES FOR SALE

14 Miles From San Francisco on Southern Pacific
or San Mateo Electric Cars Leaving 5th and Market

MILLBRAE DAIRY
MILLBRAE, CALIFORNIA

CHOICE BULLS---

vidual quality.

VISIT OUR FARM OR WRITE FOR PRICES AND PEDIGREES

J. H. HARLAN & CO.

WOODLAND, CALIFORNIA

We offer a number of choicely bred registered Holstein-Friesian Bulls, sired by RIVERSIDE PRINCE. These bulls are rugged, well marked, and of high indi-

We Offer Two Grandsons of the Great Sire HENGERVELD DeKOL

THE SIRE OF MORE RECORD DAUGHTERS THAN ANY OTHER BULL.

The Calves Were Both Born In December, 1912.
Prices and Photos on Request.

WE ALSO HAVE OTHER BULLS RANGING FROM 3 TO 11 MONTHS.
NO HEIFERS FOR SALE AT PRESENT.

THE McCLOUD RIVER LUMBER COMPANY
McCLOUD, CALIFORNIA

Worth Going East for

The Breeders' Consignment Sale Company's
17th Public Sale

190---Holsteins---190

Syracuse, N. Y., March 25-26, 1914

There have been *Sales, Good Sales and Better Sales,*
but this will positively be
THE BEST SALE
ever held

The entries include daughters of such well known bulls as

King of the Pontiacs	Dutchland Colantha Contest Boy
Sir Korndyke Pleione	Korndyke Pontiac Pietertje
Sir Prilly Walker	Sir Veeman Hengerveld
Sir Waldorf Lad	Prince Hengerveld Fayne

and others equally good.

Sons of several of the above bulls from high record dams, as well as Johanna King Segis 71964, the best son of the 40-lb. cow Johanna De Kol Van Beers, sired by King Segis Beets, the greatest transmitting son of King Segis, and who is also a grandson of the great Paul Beets De Kol.
ALL TUBERCULIN TESTED

For Catalogue, address

LIVERPOOL SALE & PEDIGREE CO.
Sale Managers

LIVERPOOL, N. Y.

AYRSHIRES

Of seven WORLD'S RECORDS for yearly production made in recent years, in all countries, Willowmoor Farms hold three.

J. W. CLISE, Redmond, Wash.

DO YOU KNOW

that this is the time of year when every dairyman should look over his separator and equipment, and make repairs or replace with new. Let

BLAIR

solve your equipment problems. Agent for De Laval Separators, James Barn Equipment, and a full line of Gasoline Engines, Motors, and Irrigation Machinery.

J. N. BLAIR & CO.

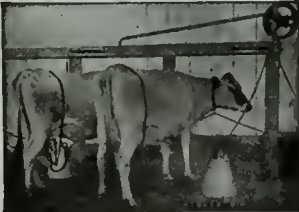
SACRAMENTO, CAL.

The Best of Everything for the Dairyman, Butcher, and Cheesemaker.

The HINMAN Milking Machine

Has had a wonderful year—2381 machines sold in 1913.

The Simplest, Safest and Most Reasonable Machine Offered



Read the following:

Brawley, Cal., Nov. 28, 1913.
C. F. Daniels & Son,
Modesto, Cal.

Dear Sirs: I have investigated your machine (THE HINMAN) thoroughly and am thoroughly satisfied you have the only practical and efficient machine on the market.

Respectfully yours,

F. B. MACKIN.

C. F. DANIELS & SON

MODESTO, CALIFORNIA.

Agents for California and Oregon.

SHORTHORNS MILK STRAIN

Attention Dairyman!

I am breeding the finest stock in the West. Write for prices and pedigrees.

JOHN LYNCH Petaluma, California



C. F. WIELAND CONSULTING ENGINEER

914 Mutual Savings Bank Bldg., San Francisco.

Concrete Silos, Sanitary Dairies, Creameries, Refrigerating Plants, Irrigation.

vation. At San Antonio the yield of native spring cactus was twenty-three tons per acre without irrigation, but with fair cultivation. At Chico, the yield of spineless cactus was about twenty-five tons per acre without irrigation but with expert cultivation. Complete details of these experiments will be published later. Further information concerning the culture and value of the thornless prickly pear cactus will be found in Farmers' Bulletin 483.

GOOD GRADE HOLSTEINS

In another column is the announcement of a sale of grade Holstein cows, to be sold at auction in Sacramento by E. J. Weldon. This is a choice dairy herd and an exceptional lot of good young cows to be offered at one time. Mr. Weldon is disposing of them because of the fact that he has recently disposed of his lease on Diepenbrock Ranch, and on his own ranch to which he will move, he has only room to take care of his herd of registered Holsteins. In fact, it will be necessary to make a slight reduction in the numbers of the registered herd, and a few heifers will be offered at the sale.

The Pennant Dairy, as this herd is known, has a high reputation locally on account of the high average milk production, and it has been a source of ample profit in supplying milk to the San Francisco trade.

Diepenbrock Ranch, upon which the dairy has been operated, is a large tract of choice Sacramento River bottom land that has increased wonderfully in value during the past few years, and we take it that the buying of the lease by Mr. Diepenbrock may point to either a sale of the property or its development for more intensive farming.

A GREAT BULL BORN IN MORRIS HOLSTEIN HERD

The Live Stock and Dairy Journal—in this day of record breaking achievement, the dairy world is not greatly concerned over the report of a new thirty-pound cow. In fact the thirty-pound cow has become rather common in Holstein circles. According to the last Year Book of The Holstein-Friesian Association of America (which includes all records to May 1, 1913), 233 cows had records in excess of thirty pounds of butter in seven days.

A record of much greater significance, and one which has been accomplished by a comparatively small number of cows, is the thousand-pound butter record. The Year Book shows but 24 that have made one thousand pounds of butter in yearly test. Young bulls from cows with such records are in great demand to head herds of registered cattle. It is seldom that a breeder records a calf whose dam and sire's dam have records of 1000 pounds of butter.

And so it is with considerable pleasure and pride that we now report the arrival of our first calf whose three nearest dams have yearly butter records averaging over 1000 pounds. It is an epoch in the history of our breeding operations, and we are proud of the fact that we have bred such a calf and developed his three great dams.

The dam of this distinguished youngster is Sadie De Kol Acme, a daughter of the world famous milk cow, Riverside Sadie De Kol Burke, and his sire is a son of the grand old cow, Aralia De Kol, who holds the world's milk and butter record for age.

The yearly records for his three dams average 1037 pounds butter and 25,306 pounds of milk. His dam's dam, Riverside Sadie De Kol Burke, is the only cow in the world that has produced 900 pounds of milk in seven days, and the only cow that has yielded



Mabel Haskins of San Jose. Present Holder of Highest A. R. O. Seven-Day Record in California. She produced 32,804 pounds 80 per cent Butter in 7 days from 679.8 pounds milk. Owned at Moorland Farm, Milpitas, Cal., by Kenneth W. Abbott.

ed an average of 100 pounds milk a day for six months. The calf's sire's dam, Aralia De Kol, was the first cow in the world to exceed 28,000 pounds milk in a year. His two granddams are also the only two cows in the world that have produced over 50,000 pounds of milk each in two consecutive years. Their two year average is 52,900 pounds.

These three cows average 108.3 pounds milk in a day and 727.5 pounds in a week. The future holds much in store for this calf, as the dam's record was made at 4 years of age, and she is expected to increase it materially later. She is now on test and her first seven days production is expected to be sufficient to give the calf an average of 30 pounds of butter for the three dams.

In the pedigree of this calf we find every feature to be desired in the pedigree of a herd sire: great dairy type, wonderful constitution, combined with great and persistent production. From every standpoint he is likely the best bull that we have bred.

A. W. MORRIS & SONS CORPORATION.

Woodland, Cal.

GO EAST AND BUY HOLSTEINS AT SYRACUSE

Buyers of registered Holsteins who are going up and down the Pacific Coast states in search of stock, have about come to the conclusion that there is little use in trying to buy on this coast. There is not a place where a carload buyer could secure a full car out of any one herd, and few localities where even one car can be made out of several herds. Several car buyers have visited the Journal office within the past month, some from as far north as Washington, and so far we have not heard of a carload being sold in one lot in California, with the exception of one lot of eight teen heifers sold by C. J. Welch of Los Banos.

There seems to be no way to get action on registered females until coast buyers look to the East, and one of the best lots offered this month is that offered by Liverpool Sale and Pedigree Company in this issue. This sale will be held at Syracuse, N. Y., and a glance at the list of sires of the females offered promises well for the quality to be found at this sale.

The Best Way to Handle Loose or Baled Hay



THE WORLD'S LARGEST HAY STACK, 2700 TONS
THIS HAY PUT UP BY
SCHMEISER IMPROVED PORTABLE AUTOMATIC DERRICK
IN CALIFORNIA
"THE SCHMEISER WAY MAKES THE FARM PAY"

IT WILL SOON BE HAYING TIME AGAIN

The Schmeiser Derrick is used by all modern farmers, and will handle loose or baled hay in the easiest, quickest and most economical manner known. It is always ready, is portable and can be moved about as easily as a farm wagon. Has great lifting capacity, and is invaluable for hoisting machinery, timbers or heavy loads of any kind.

Send for Circular Today to

Schmeiser Mfg. Co., Davis, Cal.

Growing the Ensilage Crop in Southern California

(Written for The Live Stock Dairy Journal by F. O. Frazier, B. and F. Ranch, Los Angeles County.)

After some four years of investigation of, and experience in the matter of growing, making and keeping ensilage, the writer does not think that the best product for and means of keeping ensilage in, one locality is necessarily the best in all or any other. Where corn can be grown reasonably cheap, it is our opinion, that it and no other product should be used for making ensilage. We do not think it economy to make ensilage of alfalfa. The first cutting is usually too weedy to be saleable but in spite of that condition, it does, if well cured, make the best milk-producing dry feed of all cut during the season. At least this is true of that grown in the dairy sections of the Southern part of the State of California. With us, about thirty tons of green alfalfa, such as would be used for ensilage can be taken from an acre of land in a season. The thirty tons of green alfalfa will make about ten tons of cured hay, the average value of which is about \$100. The same acre that will produce thirty tons of green alfalfa for the silo will produce, at less labor and irrigating cost, fifteen to eighteen tons of green corn in half the season, giving ample time to raise a crop of oat or barley hay before putting in the corn or to raise a crop of potatoes after the corn is off. The corn crop for silage is worth more than half what can be realized from the sale or feeding of the alfalfa and a hay or potato crop is good for more than a half of the value of the alfalfa. Beside, the grower will be certain to have better ensilage if he makes it of corn. If, instead of grain hay or potatoes, some other adaptable crop were raised, the returns might be considerable more. In any case, from our point of view, the advantage is in favor of raising corn for ensilage and corn only, where possible, and alfalfa to be fed to the milch cows as soon as it is cut, before it begins to wilt and heat, or cured and sold, or fed dry. To get best results with corn in the silo it should be cut when it reaches the time in its growth that the grains become just a bit too hard for "roasting ears" and while the stalks and leaves are still green. However, we have made fairly good ensilage of corn that had been frosted several times, the ears well matured and the leaves and stalks quite dry. When in that condition a liberal supply of water was put in the silo with the corn. While filling a silo the corn should be packed as solidly as possible by trampling. At least one heavy man should be kept at it constantly and if the silo is large in diameter two men should be walking on it all the time. The more compact the ensilage is, particularly at the outer, edge, next the wall of the silo, the better it will be and the better it will keep. After the silo is filled, cover the ensilage with old straw or litter of some sort, that is dry, and earth to about a foot in thickness. This is necessary to keep the air from penetrating and moulding ensilage.

In our opinion it is not necessary to build expensive silos in California,

either of wood or cement (concrete). In localities where there is little freezing weather the wall of the silo needs only be sufficiently heavy to stand the strain of packing the ensilage and so constructed as to exclude the air. It does not require heavy wooden construction such as advertised by Eastern concerns, that make a business of silo-building, or concrete such as has been used by some dairymen in California. Structures such as we have used for three years can be built for 30 to 40 per cent of the cost of the kinds above referred to. Ours have served the purpose perfectly without any repairs whatever and seem to be good for many years to come. They are built of two by three inch studding and one-half by six inch redwood boards and a lining of ordinary tarred paper. The studding are thirty-two feet long; they are set upon a concrete foundation eighteen inches high, eight inches thick at the base and six inches thick at the top. The studs are placed sixteen inches apart and the one-half inch boards are put on the inside of the studs, latterly, in two courses with one thickness of tarred paper between; the two courses of boards are put on so that the inside one breaks the joints of the outer course. We have two silos seventeen feet in diameter built in the manner described, they are both perfectly round and stand up as straight as the day they were finished, after having been filled and emptied twice, standing empty many months of dry weather, during which there were some high winds, and now they have been filled the third time without, as before stated, requiring any repairs.

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The registered Jersey cows owned by D. F. Conant, Modesto, Cal., are making a fine record for themselves in yearly authenticated test work.

In the May Journal we noted the yearly records of Victor's Lady Kate, 456 pounds butter fat, and Victor's Lady Dolly, 416 pounds butter fat. Three more cows have now finished with creditable records, the best of which is that of Pansy's Lily S 260-339, with 537 pounds fat in 365 days with second calf. Her milk production for the year was 9599 pounds.

Foxy Hecla, with second calf, made 452 pounds butter fat in 327 days. Her milk production for the period was 7,303 pounds.

Mamie Owl 261,075, as a junior two year-old, made 435 pounds fat in 365 days, from 7,803 pounds milk.

There is every indication that a choice group of high producing young cows is being developed in this herd, and their mature form promises to establish some Jersey records for the State.

STATE'S NATIONAL FORESTS

The annual report on losses of stock from disease, on the California National Forests, shows that the comparatively small number of 244 cattle and fifty-eight sheep died from disease. The largest loss among cattle was due to blackleg, and this occurred in cases where the owners did not vaccinate the stock. Where permittees vaccinate their stock, losses from this disease are almost eliminated. The stringent requirement of the Forest Service that all sheep be dipped before entering the forests has practically eradicated scabies.

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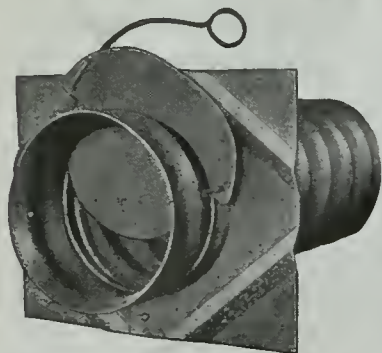
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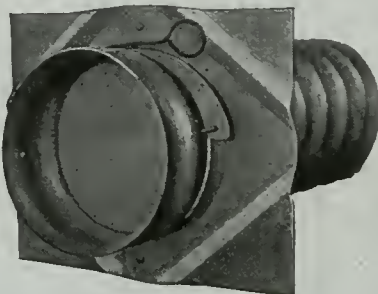
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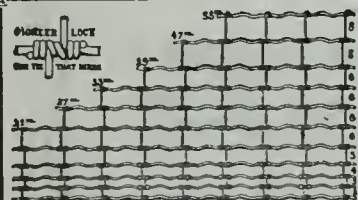
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CARNOT 66666 (66666)

Carnot. The Noted Percheron Sire Owned by W. S. Corsa, Illinois.

The Value of a Prepotent Sire

(Written for The Live Stock and Dairy Journal by H. T. Morgan.)

I have been asked to write something on the value of a good sire, and in doing this I shall use as an example of what may be attained in the way of lasting good to a breed, and of pecuniary profit to an owner, a specific illustration of an Illinois farmer who has on more than one occasion rather startled the breeding world by paying record prices for noted sires. I refer to Mr. W. S. Corsa of White Hall, Ill., the proprietor of Gregory Farm. It is not to be assumed that because a sire has sold at a long price that he is of necessity a good sire, but, in the hands of a man who is in possession of what we may call "a breeder's instinct," there seems to be almost no limit to the price that such a man can afford to pay for a good sire, provided he has the business acumen and the necessary capital to properly develop the possibilities which lay within the sire.

I have referred to business acumen as an essential element in the make-up of a really successful breeder, and this applies to his methods of advertising and showing at fairs and expositions, as well as in selecting the material for his breeding herd.

Mr. Corsa moved from Chicago to his farm some thirteen years ago. Prior to his going to the farm, it had been rented for a number of years, and at that time the farm consisted of 540 acres. During recent years the acreage has been more than doubled, and Gregory Farm now comprises 1100 acres of as fertile corn land as may be found in the corn belt. It is not an exaggeration to say that GOOD SIREs are responsible for the purchase of the additional acres and for the equipment of the whole. A description of the farm and its equip-

ment would be interesting, perhaps, but since this story is about good sires, the farm data will not intrude.

At the International Live Stock Exposition at Chicago in 1909 many of us recall the magnificent black 4-year-old Percheron stallion exhibited by Crouch & Son of Lafayette, Indiana. This stallion had but recently been imported, and was fresh from championship honors in France, and at Madison Square Garden in New York he had been exhibited just before shipment to the International. After this stallion had won first in the aged class at the International, and before the championships had been awarded, Mr. Corsa bought him for the record price of Ten Thousand Dollars, cash. This horse was the champion "CARNOT" 66666 (66666). It may be said that the "ringside talent" had picked Carnot to win the grand championship long before the ribbons were awarded. The announcement of the sale of Carnot at such a price created no little furor, and scarcely had the news of the sale circulated about the buildings at the International before Mr. Corsa had booked a sufficient number of mares to the service of Carnot to reduce his purchase price \$1,000.00.

As far back as 1901 Mr. Corsa had started breeding Percherons and had bought the stallion imported Radziwill 27328 (44228) from M. W. Dunham. Radziwill proved to be an exceptionally prepotent sire and his female progeny was of especially high quality. Many of the Radziwill mares were retained at Gregory Farm and it was from these mares that Mr. Corsa expected to rear a class of outstanding colts. Radziwill was a grey, of massive conformation, gentle in disposition and a horse that showed a lot of action. It may be stated that Radziwill was extremely rich in the blood of Brilliant and Mr. Corsa paid a long price for this sire also. Carnot is also a strongly bred "Brilliant," and his owner had a definite theory which he expected to see resulting from crossing Carnot on the get of Radziwill.



Five of Carnot's Fillies Shown at the Last International. Fitting Daughters of Their Great Sire.

The first crop of colts from Carnot amply demonstrated to Mr. Corsa that he had purchased a great sire. The colts came strong, and as alike as peas. It is a fact that more than 90 per cent of the get of Carnot are blacks, and the writer has never yet seen a Carnot colt that failed to show a maximum amount of style and finish. "Quality" is the better way to express it. The "little Carnots" all have quality in high degree. His oldest colts foaled in America are now 3 years old, and I believe I am safe in saying that in proportion to the number of the get by this stallion, they are the most valuable lot of Percherons in the United States, age considered. I have often heard this statement made, and I confidently believe it is well within the truth. Mares in foal to Carnot command prices which are from \$100.00 to perhaps \$250.00 more than they would fetch if bred to any other stallion. The first colt by Carnot that was offered for sale was at the Gregory Farm annual Percheron sale, a little more than two years ago. This was a black filly, "Maude Carnot," at that time seven months old. She brought an even One

Thousand Dollars (10 per cent of the price paid for her sire). About twenty-five mares in foal to Carnot were sold in this sale, and they sold at very strong prices. A large number of mares with foals by Carnot are retained on the farm each year. A little more than a year ago, at the annual sale, Mr. Corsa offered ten Carnot colts, nine yearlings and one weanling. The ten head brought \$9,265.00, lacking but \$735.00 of returning to the owner the price paid for their sire. The first eleven colts sold at auction in the United States returned more than the money paid for their sire. It is interesting to note here that the "top" of this lot of ten youngsters was a yearling stallion out of a dam by Radziwill. He sold for \$1,835.00 to an Ohio breeder.

After Carnot made his phenomenal show record in France and America in 1909, he was retired to the stud, and has not since been fitted for exhibition. The winnings of the produce of Carnot, however, serve well to keep his name before the public. The fairs of 1912 and 1913, and the International of those years had much to report on the achievements of this sire. The

two prizes which a breeder values above all others are "get of sire" and "two animals, the produce of one mare." At the 1912 International, a group of four colts by Carnot won first, and another group of four by Carnot won fourth. In the class for "produce of mare," Mr. Corsa's entries stood first, second and third, all on the get of Carnot and all on weanlings and yearlings, and in the hottest competition with many animals with more age.

At the 1913 International, the get of this sire practically repeated the winnings of 1912, and the get of Carnot won more money and prizes than the produce of any other sire. As in the preceding show, all these winnings were made by weanlings and yearlings.

Mr. Corsa has sold about one hundred mares bred to Carnot at approximately Seventy-five Thousand Dollars. There are now on Gregory Farm a large number of mares bred to Carnot, and also quite a large band of Carnot colts, the value of which represents a small fortune. It is impossible to estimate the true value of such a sire as Carnot. He is paying 100 per cent on the investment annually, and I believe that 200 per cent is nearer a correct estimate.

That this breeder's success with Carnot is not attributable to "luck," will be acknowledged by any man who is familiar with Berkshire history. The famous Berkshire boars, "Masterpiece" and "Baron Duke 50th," both lived many years at Gregory Farm. The story of how Mr. Corsa decided to breed Berkshires is interesting, and I give the story here about as it was told to me some years ago by Mr. Corsa: "I used to feed out a hundred or more steers each fall and winter and of course had a lot of hogs following the cattle. These were 'just hogs' such as I could buy from the farmers in my vicinity. Along about 1904 I had a bunch of cattle on feed and had perhaps two hundred hogs of all ages following. This was late in the fall and among the hogs were several sows with litters. There were two Berkshire sows in the lot, and each of these had litters of fair sized pigs, perhaps two months old. One morning just before daylight a neighbor rode into the yard and awakened me and said that my cattle and hogs had broken out and would be found along the south road. I saddled up a horse and

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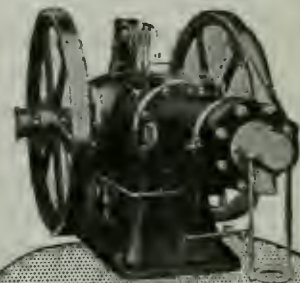
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(Continued on page 14)

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THE SWINE HERD

How Hog Cholera Is Being Combated

The Department of Agriculture, during the past year, has been conducting campaigns to control the contagious disease of hogs known as "hog cholera" by means of anti-hog cholera serum and farm quarantines. In one county (Pettis County, Missouri), where there was a loss of 18 per cent in 1911 and 25.6 per cent in 1912 of all hogs raised there was only a loss of 14 per cent up to November 1913. This decrease was due to the use of the serum, which, although not used there by the department's agents un-

til August, 1913, materially reduced the loss. About 60,000 hogs were raised during the past year and of the 10,000 that died of the hog cholera only about 1,000 were lost after active use of the serum and quarantine measures were inaugurated.

In every county where these measures were employed, even though begun after the disease had continued its ravages for some time, there was less loss from hog cholera than in either of the two preceding years.

In addition to its great function

as a preventive, it has been found that the anti-hog cholera serum would cure a large proportion of hogs in the early stages of the disease and render them immune after recovery. However, if hogs are not treated by this serum, from 75 to 100 per cent of all affected herds, die. This serum, so far as is known, is the only thing that will prevent the disease.

Of hogs actually sick when treated, the department's inspectors lost but 25 per cent during the past summer. Of well hogs in diseased herds, 2.8 per cent died after being treated and of hogs in exposed herds less than 1 per cent died after being inoculated with the serum. In an infected herd there is always a certain proportion of hogs that are well.

The inspector examines the hogs when he arrives, takes the temperature of all hogs in the herd and separates the sick from the well. The temperature is an indication of the sickness. The temperature of a sick hog, unless the hog is near death, will run about 104 degrees and sometimes as high as 107 degrees or 108 degrees Fahrenheit.

Some states are engaged in the manufacture of serum to cure this disease. This serum requires special treatment to preserve its quality and a qualified man to produce it. Sufficient serum to treat an average hundred-pound hog costs about thirty cents at a liberal estimate. The treatment is by hypodermic injection.

The department in initiating its campaign against the devastating hog disease has only been able to commence in a few of the districts where the cholera was the most widespread and where the active co-operation of the state was offered in enforcing the ordinary quarantine measures, etc.

The object of the department has been to endeavor to control the disease and if possible, to eliminate it from the country. To secure this end the best efforts of the farmer himself are necessary. The campaign against this devastating sickness during 1913 was planned in the territory selected along three lines.

1. The education and organization of the farmers in the districts selected, to be carried out primarily by the State College.

2. The enforcement of sanitation and restrictive regulations by the state veterinarian.

3. Active supervision by the Bureau of Animal Industry of the department and the inoculation of diseased herds and exposed herds with the anti-hog cholera serum.

A county in each state was selected as a unit and the method of work in that county was, briefly, for the State College to secure the co-operation of intelligent, active farmers in each township in the county. These men were called volunteer assistants and they were to keep in close communication with the department's inspector stationed in that area, keeping him informed of conditions and securing statistics concerning the hog industry. In this manner conditions were pretty well learned in the territory under inspection. When an outbreak of hog cholera was reported the department's inspector went to that outbreak and saved all the hogs he could by treatment with serum. As the disease is very easily transmitted, he then protected all herds in the immediate vicinity around the infected center.

Hog cholera is caused by a germ that exists in the blood. It is an organism apparently so small that the most powerful microscopes do not show it. However, it is easy to demonstrate its presence by inoculating a small part of the blood from a sick hog into a well one, which produces the hog cholera.

Hog cholera is a disease which seems to be stopped to a degree by

the frosts of winter, although frost cannot be said to stop a case after it has taken hold of its victim. However, it seems to prevent the rapid spread of the disease. The result is that in spring time the affection is as a rule at the lowest ebb but increases rapidly from that time until fall.

Hog cholera does not seem to affect any particular breed of hogs more than another, and while generally the careless farmer is more apt to have the disease among his hogs than the careful one, the disease sometimes occurs where the conditions are sanitary. It is hoped that the work may be extended gradually until the disease is completely controlled or eliminated. The fact that hog cholera is carried not only by the hogs themselves, but by birds, dogs, streams and even on the feet of men going from one farm to another shows how necessary it is that the campaign be thorough and that farmers exert their best efforts to assist in the work.

RE-STOCKING THE HERD.

Farmers who have lost all or part of their hogs from cholera are asking for advice as to the best way of re-stocking their herds. In this connection there are a number of things to be kept in mind. All hogs that pass through an outbreak of cholera can be regarded as being permanently immune, especially if they showed symptoms of the disease. However, only a small portion of a herd will survive an outbreak, unless the serum treatment is employed. In herds treated with serum, provided there were no undoubted cases of cholera present, all hogs surviving can be reasonably regarded as being immune. Close association with sick hogs at the time of treatment is very essential.

Where it is desired to bring new hogs into the herd, they should be vaccinated before or at the time they are placed on the infected premises. Some breeders are selling brood sows and boars guaranteed immune to cholera. Where such stock is obtained from reliable parties no further treatment should be necessary. When immune stock cannot be purchased, arrangements should be made to have the serum-virus (double) treatment given, either before or at the time the hogs are placed in the infected pens, or yards. In such cases the serum-only (single) method of treatment is not sufficient, owing to the uncertainty of the treated hogs actually getting infection from the premises at the time of treatment. The serum will afford a temporary protection, but after a while the hogs will again be susceptible to cholera. There is no way of telling whether a hog is immune to cholera or not, without actually exposing it to the disease in some way.

Pigs from immune sows will inherit a certain amount of immunity from their mothers, enough to protect them from cholera for a veritable period after birth. When the pigs are about a month old, it would be well to give them a small dose of serum, 10 to 15 cc., this to be followed by the serum-virus (double) treatment when they have been weaned and weigh from forty to fifty pounds. The double treatment given earlier does no harm to the pigs, but the immunity given very young pigs is not always lasting. By waiting until the pigs are older, permanent immunity will be practically assured by the double treatment.—H. Preston Hoskins, University Farm, St. Paul.

FIRST LIVE STOCK ASSOCIATION.

The Journal has an inquiry for information regarding the first live stock association in California. We should like to hear from any of our subscribers who can give data upon this subject.

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Should Be Used At Once.

The Department of Agriculture is in receipt of frequent inquiries concerning methods for distinguishing hog cholera from other swine diseases. The specialists in hog cholera investigations answer these inquiries as follows:

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Pigs, either sex, \$10.
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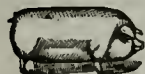
Hampshire Swine



My Hampshire Hogs have
been selected with great care,
and my herd is one of the oldest
in America. Herd headed by El
Salvador, winner of two silver
cups in the strongest competi-
tion of the Middle West. Fifty
young sows and boars for sale.
This breed has won over all
others in the dressed carcass
contest for several years at the
International Fat Stock Show.

Frank Reed Sanders

Salt River Valley, Mesa, Ariz.



SEND FOR SAMPLE COPY

Of the swine journal read by hog breed-
ers of every state. Valuable articles on
care and management of swine written by
practical hog men. The only paper pub-
lished exclusively for the Chester White,
O. I. C., breed of swine, being its official
paper. A profitable investment for any
hog raiser; 50c per year or three years \$1.
Address, White Breeders' Companion
Rochester, Indiana

ter of diagnosis appears to be of
prime importance. In reality it is not
so important or so difficult as it
seems. It is estimated that at least
90 per cent of all deaths of hogs
from disease in the United States are
caused by hog cholera. Therefore,
in the case of any fatal outbreak, the
chances are about nine to one that
the cause is hog cholera. It is sure
that other infections may and do fre-
quently complicate outbreaks of hog
cholera, but in such cases the germ
of hog cholera is the primary cause
of the disease; and if we can take
care of the germ of hog cholera the
pig will usually overcome the other
infections himself.

The symptoms exhibited by hogs
sick of hog cholera are not suffi-
ciently distinct from those produced by
other maladies so that a positive di-
agnosis can be made only through a
careful consideration of a number of
other factors in connection with the
symptoms. From a practical stand-
point the important thing is to re-
cognize hog cholera as soon as possi-
ble after its appearance in a herd in
order that anti hog-cholera serum
may be applied before the disease
progresses too far. Good serum may
be depended upon to protect well
hogs, and even to cure a large per-
centage of those in the earliest
stages of the disease, but it will not
be of much avail when used upon hogs
that are already visibly sick.

The following suggestions to farm-
ers are offered as an aid to the early
recognition of hog cholera in a herd:

1. Keep posted concerning the con-
dition and health of hogs on other
farms in your neighborhood. Sick
hogs on a neighboring farm are a
positive menace, for the germs of
hog cholera are easily carried on the
feet of men or animals.

2. Look over your herd regularly
in order that any sick hogs may be
promptly discovered.

3. If any hogs in the herd are
found to be "off feed" or appear in
anywise sick, separate them immedi-
ately from the remainder of the herd,
and keep them and the main herd un-
der close observation daily. If there
is a tendency for the disease to spread
in the herd the trouble is probably
hog cholera. This diagnosis may be
confirmed by killing one of the sick
animals and examining the organs in
the manner described in Farmers'
Bulletin 379.

4. When the first symptoms of
sickness are observed an immediate
change of feed sometimes corrects
the trouble. This is particularly true
of swill fed hogs.

5. If there is any tendency for the
disease to spread in the herd do not
temporize, but immediately treat the
herd with serum from the State Col-
lege or State Live Stock Sanitary
Board. Prompt administration of the
serum is essential to success.

7. Remember that hog cholera
kills millions of hogs where other
diseases kill thousands. Dismiss
from your mind all thought of such
diseases as "lung plague," "infecti-
ous pneumonia," "pig typhoid," etc.,
for these are generally merely fanciful
designations given to hog cholera
by uninformed men.

NEW NATIONAL FOREST USE BOOK ISSUED.

The National Forest "Use Book," a
pamphlet prepared especially for
forest users and others desiring infor-
mation concerning national forests, has
just been issued by the Secretary of
Agriculture and received by the San
Francisco office of the forest service.

The "Use Book" is for free distri-
bution to the public, and may be had
upon application to any Forest Service
office.

Mention The Live Stock and Dairy Journal When Writing to Advertisers.

OAK GROVE BERKSHIRES

BRED FOR QUALITY

Oak Grove Berkshires are now better than
ever. Our prices are reasonable—quality con-
sidered. You may buy cheaper Berkshires, but
you cannot buy good ones for less than we sell
them. Write for our illustrated catalogue.

OAK GROVE DAIRY FARM

Woodland, California

Reference: First National Bank of Woodland.



SUNNY SIDE STOCK FARM BERKSHIRES

My herd contains more Champions, more
Descendants of Champions and more Parents of
Champions than any other herd on the Pacific
Coast.

G. A. MURPHY

PERKINS, SACRAMENTO COUNTY, CAL.

POLAND CHINA SWINE

I have for sale pigs of both sexes bred by my boar, Great Prospect (57949) out
of sows bred by A. Wonder. For prices write or call.

BROWNING STOCK FARM, WOODLAND, CALIFORNIA.

W. H. BROWNING, Prop.

REGISTERED, PUREBRED

POLAND-CHINA SWINE



Herd headed by Designer (160363),
champion boar at Oregon State Fair, 1911.
Seven champion crosses close up in pedi-
gree. Best herd hog I have seen in West.
I have sows as well bred as Designer,
with six and seven champion crosses
close up. All farrow large litters.

I have not had hog cholera in my herd
for thirty years. A lot of fall pigs to sell
at \$20 to \$30. (Registry free to pur-
chaser.)

S. F. WILLIAMS

PHONE 818. R. 4. CANA, CAL.

REGISTERED

POLAND CHINA SWINE

PRIZE WINNERS

Finest Stock in the State from \$30 up

I have for sale a few very fine Young Boars bred by Gold Coin,
Master Banker and Wonderful Victor. There is no better blood in the
world.

M. BASSETT, Breeder

HANFORD, CAL.

Berkshires

At California State Fair, 1913 with 12
entries my herd won 12 prizes, including
Champion sow open class, and Champion
sow bred by exhibitor.
Young stock for sale.

H. L. MURPHY

PERKINS, Sacramento Co. CAL.

Poland Chinas Iowa Wonder, son of A

Wonder, heads herd.
His daughters are bred to a stylish son
of Banker's Model. These Pigs sell
quickly, and it would be well to place
orders for Spring Pigs now.
N. HAUCK, Alton, Humboldt Co., Calif.

PURE GOLD STOCK FARM

Breeders of BERKSHIRE HOGS
HOLSTEIN-FRIESIAN CATTLE

Offers for sale a few Choice Boars of
breeding age, and a number of Boar Pigs
containing the blood of Masterpiece and
Robinhood. Prices, \$25 to \$75.
Also one choice Yearling Bull of good
breeding.

MARKOFER & LATTI, Elk Grove, Cal.

BERKSHIRES REGISTERED BOARS
OF ALL AGES.

Two especially fine Boars ready for
immediate service, at a sacrifice price.
Also White Leghorn Hatching Eggs for
sale.
RICCOMI BROS.,
Mountain View, Cal.

LOW COLONIST RATES

To CALIFORNIA

Common Points

March 15th to
April 15th, 1914

SOME RATES:

Chicago	\$38.00
St. Louis	\$37.00
Kansas City	\$30.00
Omaha	\$30.00
Denver	\$30.00
St. Paul	\$37.85
New Orleans	\$37.00
Memphis	\$37.00
Fort Worth	\$32.50
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**Corresponding Reductions
Will Be Made
From Other Points**

**Liberal Stopover Privileges
Allowed**

Southern Pacific

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District Freight and Pass. Agt.

S. S. FENTON, C. P. A.
801 K St.

J. E. McMILLAN
Depot Ticket Agt.

SACRAMENTO, CAL.

The Value of a Prepotent Sire

(Continued from page 11.)

started out, and in the first mile or two I passed a lot of my hogs but had not overtaken the cattle in that distance. About four miles from home I found the cattle and with them were the two Berkshire sows and their litters industriously working over the droppings. Not another hog had followed the cattle more than two miles, and I was duly impressed with the industry of the Berkshire, and right there I decided to go into pure-bred Berkshires. I disposed of all my grade hogs and commenced laying the foundation for a herd of Berkshires."

In looking about for a superior boar to head the herd, Mr. Corsa became much impressed with the individual excellent of Masterpiece, at that time not quite 3 years old. Masterpiece was then owned by Mr. A. J. Lovejoy of Roscoe, Illinois. When Mr. Corsa asked for a price on the boar, Mr. Lovejoy thought he would discourage all future attempts at separating him from his favorite, and asked what he thought would be a prohibitive price, \$2,500.00, which offer was immediately accepted by the master of Gregory Farm, and Masterpiece went to a new home, and at the longest price

sires. The champion Berkshires bred at Gregory Farm or from sons and daughters of the two great boars, are to be found in almost every state. The grand champion barrow of the 1910 International, which barrow is still referred to by the press, and at the "Yards" as having been the most perfectly developed hog ever seen at the Chicago stock yards, was out of a daughter of Masterpiece and his sire was a son of Baron Duke 50th. The writer bred, fed and exhibited this great barrow and presented him after the show to the Idaho Agricultural Experiment Station at Moscow, Idaho. The barrow was used at the college for several months for demonstration purposes, and also toured the North-western states on a live-stock demonstration train.

By the use of great sires, Gregory Farm has built up a constant and increasing business. The Berkshire business has reached such proportions that in order to keep the herd at all times immunized against cholera, a serum-producing plant is being erected. Every Berkshire shipped from Gregory Farm is insured against death from cholera.

Mr. Corsa is a firm believer in the public sale as a means of disposing of pure-bred stock, and such sales are



Matchless Baron 5th, Champion Berkshire Barrow at 1910 International.

ever paid for a boar up to that time. A little later, Mr. Corsa paid \$1,600.00 for Baron Duke 50th, and both of these boars rendered several years of valuable service at Gregory Farm. The blood of these two boars will be favorably considered for a score of years to come, and without doubt, Masterpiece and Baron Duke 50th are better known to breeders than any specimens of the porcine species that ever lived. Mr. Corsa told me several years ago that he probably owed Masterpiece \$25,000.00 and the old boar lived for two years after that and was vigorous to the end. Mr. Corsa sold a son of Masterpiece at public auction for \$5,500.00, which price still stands as the record for a hog of any breed.

If "luck" entered into the case of either of the animals of which I am writing, it was in that they were spared to lives of usefulness. Masterpiece and Baron Duke 50th both died at "ripe old age," and Carnot is right in his prime and should be spared to twelve or fifteen years of future service.

In using the boars, Masterpiece and Baron Duke 50th, Mr. Corsa had expected that the combination of the blood of the two boars would produce the "top" in the Berkshire world, just as he had planned and expected that the blood of Carnot crossed on that of Radziwill would produce the champions in the Percheron ring. In both his theories the results proved the wisdom of his selections in high-priced

fixed annual events at Gregory Farm. These are not entered into upon the impulse of the moment, but are planned for and prepared for a year or more in advance so that buyers who attend these sales year after year expect to find an offering of useful animals and not a bunch of "left-overs" or culls. The first public sale at this farm was in 1905 when it required a whole day to dispose of about \$2,000.00 worth of grade stock, and it took a whole day to sell it. The next year, \$8,000.00 worth was sold in half a day. Two years later, I saw nearly \$30,000.00 worth of Berkshires sell in three hours, and a year ago I saw thirty-four Percherons sell at Gregory Farm in two hours, at an average of \$720.00 each. Private sales have increased from year to year, and, he it remembered, the high-priced sire has made all this business. The mere reputation of being the owner of a high-priced sire is of questionable value, but a reputation of owning a GREAT sire is of inestimable value. The value of a GREAT sire can only be measured by the number of years that such a sire is spared for service.

Among the recent circulars issued by the United States Department of Agriculture are the following: Measles in Cattle (Circular 214, Bureau of Animal Industry); Infectious Abortion of Cattle and the Occurrence of its Bacterium in Milk (Circular 216, Bureau of Animal Industry).

THE HORSE

Methods to Control Blind Staggers, Which Is Causing the Death of Thousands of Horses

In past years horses have died by the thousands in Texas, Iowa, Kansas and Nebraska from a disease affecting the nervous system, popularly known as blind staggers or forage poisoning. The Department of Agriculture has received urgent requests for help against this disease from sixteen different states, and as a result it is now publishing a bulletin contain-

ing definite instructions for combating this disease.

The states that appealed to the Department of Agriculture for assistance include the following: Colorado, Georgia, Kentucky, Louisiana, Maryland, Missouri, Nebraska, New Jersey, North Carolina, Oregon, South Carolina, South Dakota, Virginia, West Virginia. This shows the universality of the disease. Kansas and Nebraska bore the brunt of the affliction during the past year, but other states have also suffered seriously. Kansas has had more than her share. Severe outbreaks extended over almost the entire state in 1891 and since that date have recurred with equal severity on two occasions in various portions of the state.

The bulletin takes notice of the fact that additional deaths have undoubtedly been due to the use of fake "cures" sold by unscrupulous persons. It is reported that in Nebraska "black-leg vaccine" was used on at least 1600 unaffected horses, nearly 1500 of which are said to have died as a direct result.

Investigators have practically established that this horse disease can be controlled effectively only by a total change of feed and forage. It is quite obvious that there is a direct connection between the green forage, exposed pasture and newly-cut hay or fodder which the horses eat, and this Cerebrospinal Meningitis, as the disease is known to scientists. In fact, eating of such forage when contaminated is undoubtedly the most important cause. Over 95 per cent of cases of this disease in Kansas and Nebraska during the outbreak of 1912 were maintained under such conditions.

Great care must be taken that horses do not obtain the dangerous forage unknown to their owners. The owner of one farm informed the Department's investigator that his dead horses had eaten nothing but old hay and grain.

"But what about the closely-cropped grass in this pasture?" remarked the investigator, noticing the adjacent field.

"Oh!" answered the farmer innocently, "I always turn the work-horses into pasture over night."

Many horses have died from blind staggers caused by eating moldy baled hay. As soon as the hay was eliminated the disease ceased. Other horses in the vicinity not fed upon this hay failed to contract this disease. Later some of the moldy bales were opened and exposed to the sun for three or four weeks. After this the hay was fed to horses without producing any ill effect. Forage poisoning, therefore, seems not to be an infectious but rather what is called "auto-intoxication"—that is, it is due to certain chemical poisons or toxins formed by the activity of internal organisms. These poisons may be present when the forage is taken into the body or may be formed in the stomach. The nature of this poison is still unknown.

Characteristic Symptoms of This Disease.

When the horse is taken with the blind staggers it usually exhibits a disturbance of the appetite, depression and weakness, while there is trouble in swallowing, drooping of the head and sleepiness which may give way to ex-

Registered Jacks



Twelve head from 2 to 6 years old. Native Sons, hardy as Billy Goats and about as active. Extra heavy bone and right every way. Fully tested as breeders and sold under an absolute guarantee. Will trade for Young Mules, Horses, or Land. Come and see the stock.

Phone M. 471-J.
Res. 508 N. Douty Street

J. W. McCord

Hanford

California



For Sale

ELEVEN HEAD OF

Registered Percherons

One 3-year Stallion, weighing 1900 pounds; two 2-year-old Stallions; two yearling Stallions and six Mares at a reasonable price.

F. F. MARTIN

338 ELM STREET, RENO, NEV.

HORSES And MULES SHETLAND PONIES

I both buy and sell mules and horses. Have on hand at all times mules to hire in carload lots. Also breed Shetland Ponies, and have several weanling colts and a few well broke ponies for sale.

J. L. MENDENHALL, Williams, Calif.

Kentucky Jack and Percheron Farms



Big Boned Kentucky Mammoth Jacks, Saddle Stallions, Mares, Colts and Fillies. A number of Jacks and Saddle Colts that can be shipped by express at a very low rate. Write for catalog or visit our farms.

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LEXINGTON, KY.

America's Leading Horse Importers

PERCHERONS

Kansas City, Mo.

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LOIRET (99980) 97629

One of our rising three-year-olds, distinctly the "McLaughlin Type."

Our recent importation arrived March 1st and can now be seen at our stables in Oakland. For quality, weight and merit, it comprises the best lot of stallions that has ever been shipped to the Pacific Coast.

Our stallions won every First Prize at the Great California State Fair, 1913.

We were awarded Two Gold Medals, Two Prize Ribbons, at the Great International Live Stock Exposition, Chicago, December, 1913.

If you wish the sort of stallion which has made the "McLaughlin Type" famous, one that sires good horses, one that is carefully selected both as to pedigree and individual merit, we can supply you at a reasonable price.

Western Stables, 47th and San Pablo Ave., Oakland, Calif.
McLAUGHLIN PERCHERON COMPANY

JACKS AND JENNETS

If you are wanting a good Jack or Jennet, fully guaranteed, call on or write me.

I have the largest Jack and Jennet farm west of the Rocky Mountains, and am raising only the large, heavy-boned kind, and am selling them at reasonable prices.

J. E. DICKINSON

FRESNO, CALIFORNIA

STOCKTON, CAL.
P. O. Box 679

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P. O. Box 1117

H. B. THORNBERRY

Dealer in Registered and Pedigreed



Jacks and Jennets

Largest Importer in the United States. Stock sold under the very best possible guarantees, and with terms to suit purchasers.

See my stock at Fair Grounds, Stockton, Cal.

Imported Shires

We offer for sale young mares and stallions from some of the best stock in England. Ages range from 1 to 4 years.

These are all good individuals, and every one is absolutely sound. We also have saddle horses and driving horses for sale.

Correspondence and Inspection of Stock Invited.

BLACK HAWK RANCH, :: Burlingame, California

PHONE 131.

A. W. WARD, Superintendent

citement and attacks of dizziness. The vision is impaired, which results in the staggering gait that gives the disease its popular name. Certain muscles of the neck and flanks are cramped and there is a grinding of the teeth. Sometimes the animal will walk strangely if in an open space and will try to push through any obstacle it encounters. In the stable he will press his head against the stall or rest it on the manger. Sometimes he will crowd into a corner. The temperature at the beginning of the disease ranges from 103 to 107 degrees F., but within twenty-four hours the temperature falls and eventually becomes subnormal. The animal is often down on the second or third day and may or may not get up when urged. Death usually occurs in from four to eight days, although death may follow within ten hours of the first symptoms, while chronic cases have been known to last for three weeks. About 90 per cent of the affected animals die.

Medical Treatment Generally Unsatisfactory.

While medical treatment in the vast majority of cases has not brought results, nevertheless, if it is used at all it must be prompt and before the disease has had time to run. Active and concentrated remedies should be given. Afflicted animals, however, have great difficulty in swallowing immediately after being taken, so that these remedies must generally be given by injection. Arecolin in one-half grain doses, subcutaneously, has given good results as a purgative.

Early in the the disease urotropin in doses of 25 grains dissolved in water and given by the mouth every two hours, appears to have been responsible for the recovery of some cases of the malady.

After the animal has been purged, the treatment varies according to the symptoms. The following measures have been recommended:

The first and most important: Feed only clean, well-cured forage and grain, and pure water.

Calomel, salol, and salicylic acid, to disinfect intestines

Mild antiseptic mouth-washes are advisable.

Copious cold-water injections, if the temperature is high, give better results than antipyretics.

An ice pack applied to the head is beneficial in the case of marked nervous disorder.

One-ounce doses of chloral hydrate per rectum should be given if the patient is violent or muscular spasms are severe.

If the temperature becomes subnormal, the animal should be warmly blanketed.

If much weakness is shown this should be combated with stimulants, such as strychnine, camphor, alcohol, atropin, or aromatic spirits of ammonia.

During convalescence the usual tonic treatment is recommended.

The Department of Agriculture's bulletin (No. 65) is entitled, "Cerebrospinal Meningitis (Forage Poisoning)," and may be had on application to the Department of Agriculture, Washington, D. C.



Bramhope Peel. Imported Shire Stallion owned by Henry Wheatley, Napa, Cal. One of the good ones of the breed that has made Salvador Stock Farm noted for the quality of its Shires.

HEAVES

W. T. Neale, writing in Farm, Stock and Home relative to heaves in horses, has this to say: Any horse that must continually eat musty, dusty hay is very apt to have the heaves, especially if the hay is of a leguminous nature, such as clover or alfalfa. When a horse once gets the heaves it is very hard to entirely cure him. When the hay is the least bit dusty he will go to coughing and heaving again. I have found a couple of remedies that have proven very helpful in the treatment of the heaves. If one uses either of these, then removes the conditions that cause the heaves, the animal may get along very well and show but little, if any, sign of heaves. Oil of tar is a very good remedy. A teaspoonful placed on the horse's tongue as far back as possible so that he will swallow it, gives relief. Give it every other evening, and just after administering the dose give the horse some grain so that he will be sure to swallow all the tar. I used cream of tartar very successfully on a brown mare which had a touch of the heaves. I tried to give it to her on the tongue, but she wasted too much, so I mixed a couple of tablespoonfuls of cream of tartar with a half gallon of bran, and the mare licked the whole hushness up slick and clean. I gave her a dose every other day for a week and the heaves disappeared. Then remove the cause of heaves. No use to feed remedies when conditions remain the same. Moistens all the hay, keep the mangers free from dust and see that the barn door is not dusty. Give the horse plenty of water to drink before and after feeding. This will prevent the return of the disease.

McLAUGHLIN BRINGS OUT ANOTHER GRAND LOT OF YOUNG STALLIONS.

William McLaughlin, president of McLaughlin Percheron Company, Oakland, Cal., has just returned to the coast, bringing with him another top notch lot of young imported stallions.

The demand for really high class stallions is especially active in California this year, and this will make the third importation brought out by this company since last fall. All of the horses in the first two lots have been sold, except one.

The new importation is made up principally of two and three year old Percherons, and also includes two ex-

traordinary Belgians. Owing to the high prices offered in Europe for high class Belgians, the McLaughlin Company were compelled to use all their prestige with the breeders of Belgium in order to secure the class of Belgians that they imported last year.

In writing of the new importation Mr. McLaughlin says: "This shipment comprises the best lot of stallions shipped to the Pacific Coast in the last decade. The demand in the country for horses of extra merit was never better, and our effort to import this class of stallions will be appreciated by every buyer when he visits our stables and inspects our late importation. There is not a Percheron in this shipment that is not sufficiently equipped to head the best stud of pure bred mares in any country. They are all two and three years old, up to the standard in size, quality, bone, and finish. They were all specially selected, and are of the type best calculated to give satisfaction to California breeders and stockmen. Each animal is distinctly of the 'McLaughlin type,' which has become famous through the show rings of both France and America."

LIVE STOCK GRAZING OF THE NATIONAL FORESTS IN CALIFORNIA.

While the past season was unusual, only three of the nineteen national forests in California—namely, the Santa Barbara, Monterey, and Kern—have shown unfavorable range conditions. All the others were either normal or above normal, and some excellent. Foothill conditions in the central Sierra ranges were below normal, but feed in the high ranges was excellent on account of copious rains. In most instances stock left the national forests in good condition, and a great deal of beef was marketed right from the ranges.

Grazing authorizations approved for 1904 on the California National Forests cover 207,562 cattle and horses, 7,990 swine, and 477,990 sheep and goats. This will be a net increase over the number authorized for 1913 of 6,835 cattle and horses and 21,282 sheep and goats, and a decrease of 575 swine.

The beneficial effects of regulated grazing are fully shown in the increased number of stock which may be permitted from year to year on regularly used ranges.



Salvador Stock Farm Shire Horses

Don't Sign that Note for \$3000

I will sell you a better horse for half the money

Henry Wheatly, Napa, Cal.

SHETLAND PONIES

I have a superior lot of Shetlands, three to six years old, mostly spotted. All are sired by imported stallions and the mares are in foal to an imported spotted stallion. There is a carload of these ponies, and I will make a special price on them which will admit of the buyer making a splendid profit.

For prompt sale, I will take \$100.00 per head for 35 head, and on a larger number will shade the price \$5.00 per head on not less than 40 head.

These ponies are ready for immediate use and are worth \$150.00 per head.

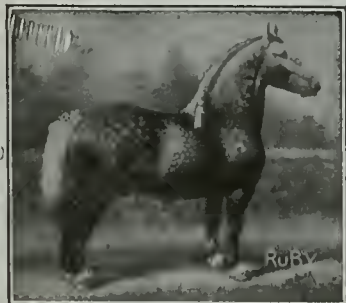
H. T. MORGAN, Glen Ellyn, Ill.

A. C. RUBY, Portland, Ore.

C. W. BOWERS, Davis, Cal.

RUBY & BOWERS

THE LARGEST HORSE IMPORTERS ON THE PACIFIC COAST.



Percheron, Belgian, English Shire, Clydesdale, Hackneys and Coach Stallions and Mares.

We sell more imported horses than all other firms on the coast because we are direct importers and give a four-year guarantee which is good right at home. We have on hand at all times the largest and best lot of heavy draft stallions and mares, both American bred and imported, to be found any place in the West. If you are in the market for a high-class stallion or mare, don't fail to give us a call, as we can sell you more genuine horse for the money than any other importer in the business.

RUBY & BOWERS
Davis, California

We have imported more Horses than any other firm in the United States during the last year.

References: American National Bank, Pendleton, Ore.; Merchants' National Bank, Portland, Ore.; First State Savings Bank, Marcellus, Mich.; Bank of Yolo, Davis, Cal.; G. W. Jones' Bank, Marcellus, Mich.

IMPORTED PERCHERONS PASS THROUGH CHICAGO

Just as the Journal goes to press we are in receipt of a telegram from Chicago Union Stock Yards which says: "A large importation of Percheron stallions passed through Chicago today consigned by express direct from France to McLaughlin Percheron Co., Oakland, California. Included in this importation are several prominent prize winners at the leading shows of France. Nearly every horse in this consignment is coming three years old, and leading horsemen here say they have never seen such great weight in stallions of the age. They should arrive in Oakland next Tuesday morning (February 24) and will undoubtedly affect a great improvement in the heavy draft stock of California."

HORSE AND MULE OUTLOOK.

There are more high-class stallions and jacks being put into service this season in California, than in any other period for several seasons back. The prices being obtained for desirable draft horses and mules are on a higher level than ever before in normal times, and there seems to be no reason to expect a decline for years to come. In the economy of things, the small, scrub, inefficient horse and mule is rapidly passing, but animals of good size and proper draft conformation will be for many years yet a necessity in the activities of mankind.

The farmer who is breeding few or many mares this spring has it in his power to decide to a large degree what the quality of next year's colts will be. There are few localities in the State where there is not at least one really good registered draft stallion standing for public service. There are still many localities where there is not a single really good jack available, but these are steadily lessening in number.

It would be well for mare owners to take especial care in the selection of the sire to which their mares are to be bred this year, for there is no denying the fact that we have reached the point where it is not profitable to breed the undersized horses that now glut our markets. In the selection of the sire, it is not enough that he is licensed by the State Stallion Board. The principal function of that body is to prevent the standing of diseased or blemished stallions and jacks. The mere fact that a sire has been passed by the board as being sound, is absolutely no recommendation that the individual is otherwise desirable. Soundness should perhaps be the first consideration, but after that it must be remembered that there are many grade and mongrel stallions and jacks in the State that have been licensed to stand. In many cases there are good individuals among them as far as the eye can see. This fact combined with the lower service fee charged leads many mare owners into the mistaken practice of breeding to them. There is no element of constructive breeding in such a practice. The whole pure-bred idea is based upon the determined fact that through many generations of pure blood it has been possible to produce males that will with reasonable certainty impress their individuality upon their offspring. When it is taken into consideration that even a sire that is backed by hundreds of years of pure-bred ancestors will now and then prove a weakling, what can possibly be expected of a grade or mongrel that has 50 per cent or less of pure blood, and is likely to throw back to any one of the strong characteristics of its scrub blood. It is high time that grade and scrub stallions and jacks go unpatronized, and this spring is the best time to make the resolve to breed only to registered pure-bred sires.

BIG WASTE OF FERTILIZING MATERIAL.

Seventy-five per cent of a highly valuable fertilizing material in the form of tankage and blood from the country slaughter of food animals is being wasted throughout the country districts. In addition \$22,000,000 worth of ammonia from which ammonium sulphate, another valuable fertilizing material could be made, is annually wasted by the practice of making coke in the beehive type of oven, according to a recent bulletin of the Department of Agriculture.

Dried blood is perhaps the richest in nitrogen of all the organic materials used in the fertilizing industries. Unadulterated blood when quite dry contains 14 per cent of nitrogen, but as obtained on the market its content varies from 9 to 13 per cent.

From the figures estimated by the Bureau of Animal Industry, Department of Agriculture, as representing the total slaughter of cattle, calves, swine, and sheep in the United States, in 1912, it has been calculated that if all the materials rendered available by this slaughter had been saved and converted into tankage and dried blood, they would have produced 222,536 tons of tankage and 79,794 tons of dried blood.

The introduction of a co-operative system among American farmers undoubtedly would result in an increased utilization of blood and tankage for fertilizing purposes. In Denmark country killing is being practiced on a co-operative basis in small country abattoirs, and the blood is carefully preserved.

The loss of ammonium sulphate which compares favorably with sodium nitrate as a plant stimulant in the distillation of coal for the production of coke, is described in the bulletin as follows:

"In the main, coal is distilled in this country in that form of coke oven, the beehive oven, which does not admit of the recovery of the distillation products. Instead, they are allowed to go to waste. So we are indebted to the by-product recovery oven for the main supply of ammonium sulphate. The amount recovered is valued at about \$4,000,000, while the recoverable ammonia annually destroyed in the coking processes by the beehive ovens is valued at \$22,000,000. At the beginning of 1912 there were 4,624 by-product coke ovens in operation in the United States and 698 building."

The great product of Chile, sodium nitrate, possesses less nitrogen content (15.5 per cent) than ammonium sulphate. The United States, however, imports a great quantity (in 1911, 70,000 tons), for use in agriculture, owing to the deficient supply of other fertilizer in this country. This is only a small part of the total amount of sodium nitrate America imports yearly from Chile, as it has many other uses. The more intensive agriculture of recent years has emphasized the demand for nitrates, and the fact that the Chilean beds of nitrates have been surveyed and figures have been obtained which make possible a fairly close estimate of the amount of nitrate remaining there should stimulate the manufacture of nitrogenous substances suitable for fertilizer manufacture, and serve as a warning against undue waste.

Artificial nitrates have become commercially important to supply the demand in this country; Calcium Cyanamide being perhaps the most nitrogenous material manufactured for fertilizer purposes. It is prepared from calcium carbide and free nitrogen, the latter being prepared from the atmosphere by the removal of oxygen. This industry is considered to be as yet only in its infancy, and with the increased capacity of existing factories and extensions now under way should prove

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A great many of the large land owners are using KILMOL in great quantities, and are enthusiastic over the wonderful results.

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If you wish to investigate this method immediately, send \$17.50 and I will send the complete outfit: SQUIRREL DESTROYER, 3½ feet of hose, carrying straps, and five gallons of KILMOL. With an average infestation, this will treat over 60 acres, and the cost for KILMOL will be but \$6.00 for each additional 60 acres. After you get this outfit and have given it a trial, if you are not satisfied, I will gladly refund your money. Send personal check or money order.

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5 gallons Kimol today is worth \$100.00 in crops tomorrow

Stychnine, 65c an ounce—Barley poisoned according to Government formula, \$7.50 for 100 lb. Drum.



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**"THE PLOW THAT
HAS BEEN COPIED BUT
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Any wearing part of this plow, either mouldboard, landside or share, can be changed from steel to chilled iron or vice versa. Parts are also interchangeable on wood or steel beam plows. Mouldboards are so shaped that furrows are lapped in perfect regularity without a break. A minimum of friction insures light draft.

An IMPERIAL WALKING PLOW cannot be strained out of shape. Any wearing part can be replaced without disarranging others.

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an important factor in the present source of nitrogenous fertilizers.

The relative values of the different fertilizers are brought out fully in this

bulletin (No. 37), which can be had on application to the Division of Publications, United States Department of Agriculture, Washington, D. C.

BEEF CATTLE

SHRINKAGE IN WEIGHT OF BEEF CATTLE IN TRANSIT.

The shrinkage or loss in weight of beef cattle in the course of shipment from western farms and ranches to the markets has been made a subject of special study by the Department of Agriculture, and what is believed to be the first authentic information on this subject has been compiled and published as Bulletin 25. The investigation covered three years in various cattle-raising sections of the West. The cattle were weighed at the point of loading, on arrival at their destination, and again after having rest, feed, and water. The weight was also taken when the animals were sold. The records include the weighing of Texas and Northwestern range cattle and calves, and corn-fed, silage-fed, and beet-pulp-fed cattle. In all, 265 shipments were weighed, comprising over 19,000 cattle.

All cattlemen know that when their stock arrive at market they are usually lighter in weight than when they started. This loss in weight is called shrinkage. It is due to excretions from the alimentary canal and from the urinary organs, and to moisture given off by the lungs in breathing. A portion of this loss may be regained at the market by the food and water taken into the system. This is termed the "fill."

The shrinkage of cattle in transit is such a variable factor that no one can say definitely how much it will be during a journey, but by the use of very large numbers of cattle an average shrinkage will be obtained which may be used as a basis for estimating the amount of shrinkage on cattle shipped under similar conditions.

The net shrinkage (that is, the difference between the weight at the point of origin and the weight of the animals when sold at the market after taking the "fill") was found in the department's investigations to range all the way from 15 to 75 pounds per head, or from 2.14 to 7 per cent, depending upon the length of time and other conditions. The time that the cattle were in transit varied from less than 24 hours to more than 72 hours. The normal shrinkage may be regarded as from 3 to 6 per cent of live weight.

The extent of the shrinkage depends upon various factors, among which are the conditions at the time of shipping and the treatment during the drive to the loading pens; the length of time the cattle were held without feed and water before being loaded; the nature of the fill before loading—the greater losses occurring when this consisted of succulent grass, beet pulp, or silage; the weather and climatic conditions, at the time of loading while in transit, and at the market; the character of the run to market, greater shrinkage naturally being caused by slow, rough runs; the time of arrival at market.

The shrinkage during the first 24 hours is greater proportionately than for any succeeding period of the same duration.

The difference between the shrinkage of cows and steers is not as great as is ordinarily supposed. Steers will usually shrink somewhat less than cows of the same weight.

The shrinkage of range cattle in transit over 70 hours during a normal year is from 5 to 6 per cent of their live weight. If they are in transit 36 hours or less the shrinkage will range from 3 to 4 per cent of their live weight.

The shrinkage of fed cattle does not differ greatly from that of range cat-

tle for equal periods of time. Cattle fed on silage have a large gross shrinkage, but usually fill so well at market that the net shrinkage is small. Pulp-fed cattle shrink more in transit than any other class of cattle, and also show a greater net shrinkage.

For a long journey the common method of unloading for feed, water, and rest is to be preferred to the use of "feed and water" cars.

Cattle should be weighed before being loaded wherever practicable, since a comparison of this weight with the sale weight will show the net shrinkage. Moreover, this weight at point of origin may be of material benefit to the shipper in case of a wreck or a very poor run to market.

There is no way of entirely preventing shrinkage in the shipping of cattle, but by judicious care in handling and feeding the cattle just previous to shipping the shrinkage may be lessened. If cattle are to be in transit for 24 hours or longer, it is a good plan to feed about two halves of nice bright hay for each carload a few hours before loading.

When care is used in trailing the cattle to the loading pens, not driving them too fast nor too far in a day and giving them five or six hours a day to graze on the way, long distances may be covered with no apparent injury to the cattle. On arrival at the pens it is well to give the animals a light feed of hay with a little water, or allow them to graze a short time before loading them, unless the grass is very luxuriant. An excessive fill of water or green fodder or grass just before loading is not good for the cattle, as it may cause them to scour in transit; then, too, they will not stand up as well in the cars.

CONCENTRATED SHIPMENTS FOR PANAMA-PACIFIC EXPOSITION.

Arrangements have already been practically completed by which the breeders of purebred live stock will concentrate their shipments at the American Royal Live Stock Show at Kansas City in 1915 for delivery at San Francisco. Other arrangements of a like nature have been practically completed in other cities and territories.

At the National Dairy Show recently held in Chicago a prominent dairy and creamery man made the suggestion in a public address that the dairy cattle intended for view herds in the Panama-Pacific International Exposition should be gathered on a train which would start in New York or some other Eastern town and gather the herds on its route to San Francisco. This train would be stopped in the state capitals and other prominent cities of the various states through which it passes, and would be used as a demonstration train in illustrating lectures which would be delivered by experts and in showing the people of the whole country the quality of cattle which compose the different breeds as well as those which would be on view at the Panama-Pacific International Exposition. This suggestion met with a hearty response at this meeting, and it is now understood that those in authority are taking steps to bring about such a result.

The same idea can be carried out in the shipment of poultry to great advantage. The general exhibit of poultry at the Panama-Pacific International Exposition will be under the supervision of the officers of the American Poultry Association, and already announcements have been made by breeders and exhibitors who plan to send their birds in carload lots from

Eastern Canada and from several of the Eastern states of the United States. Foreign exhibitors will probably ship through the canal, landing their exhibits directly on the Expo-

sition grounds, but the exhibits from the interior of the United States can be most easily handled by an arrangement for the concentration of shipments as herein suggested.

YOUNG JACK FOR SALE

MOGUL GIANT, winner first prize, California State Fair, 1913. Foaled, August 23, 1911.

Sire, Baby Giant, 3933, bred and raised in Missouri, 16¾ hands high, weight 1242 pounds.

Dam, Maggie, 5120, bred and raised in Missouri, 15½ hands high, weight 1150, awarded first prize, California State Fair, 1913.

This Jack is black with white points, very heavy bone, good action, good conformation, is well broken to mares and is a quick server; will, when matured, be 16 to 16½ hands high and weigh between 1200 and 1250. I guarantee him to be a sure breeder. Photo and price on application. Have some very good young Jennets for sale.

W. J. GREER, Edenvale, Santa Clara County, California.

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Breeders of

Registered Shorthorn Bulls

Ready for Service, Range or Otherwise. SHROPSHIRE SHEEP and BERKSHIRE HOGS. HUNGARIAN PONIES, saddle or harness. Prices on application.

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PEDIGREED LIVE STOCK

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HANFORD, CALIFORNIA

Hereford Cattle for Sale. Excellent Pedigree

JAS. WHITAKER, : : : Proprietor

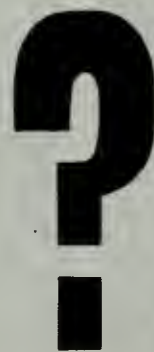
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Phone Main 584.

SHEEP

LAMB FEEDING EXPERIMENTS.

The lamb is not the first consideration in successful feeding operations writes E. J. Iddings in American Sheep Breeder. The feed is even more important, if such be possible, and at any rate should be first considered. If suitable roughage and grains are not available at reasonable prices, feeding should not be given serious consideration. In the western states the roughage that has given by far the best results and is both cheap and abundant, is alfalfa hay. Bright, clean, well-cured alfalfa with a low percentage of coarse stems is the foundation of successful lamb fattening. Big, thrifty lambs will eat around three pounds of alfalfa per day when receiving no grain. Five hundred and thirteen lambs of mixed Merino, Shropshire, Cotswold and Lincoln breeding, fed by the Idaho Experiment Station last year, ate, in addition to a grain ration fed for a full period of 120 days, 2.4 pounds of alfalfa hay daily per head. For a ninety-day feeding period a ton of alfalfa will take care of nine lambs and 110 tons of hay will be required for 1,000 lambs.

In order to properly fatten a lamb grain must be fed in addition to the hay, and most feeders of experience start with grain as soon as the lambs are put in the feed-lot. Some north-western farmers, however, maintain that it is more economical when alfalfa is low in price to feed hay for the greater part of the feeding period and use grain only of sufficient amount and for sufficient time to harden the flesh, and pass the lambs off as grain fed. One Idaho farmer and stockman claimed returns of \$24 per ton for his hay last winter by this method. In order to secure accurate data in comparison of these two different methods, the Idaho station on its substitution farm at Caldwell, will feed this winter a light versus a heavy grain ration, using 175 lambs in each lot.

Many grains have been tried in the feed-lot. Average results in comparing grains for lamb feeding have favored corn both in giving the desirable carcass for market and in economy of grain. Where alfalfa hay is available the combination of this legume with shelled corn seems to take the balanced ration for a fattening lamb. The wonderful success of Colorado feeders is an exemplification of the alfalfa-corn method. In the palmy days for Colorado feeders hay was cheaper than now and Nebraska corn was near at hand and cheap. States further removed from the corn belt find corn too expensive and search has been made for substitutes. Barley oats, wheat and field peas are commonly employed for this purpose. Barley has been claimed to equal corn, but average results of the various stations do not bear out this claim. Good barley is very near the feeding value of an equal weight of corn and wheat—6 to 12 cents per hundredweight cheaper is fully as economical. In the Idaho's experiments of 1912-13 wheat supplemented with oats was fed. Contrary to prediction results were gratifying, the wheat-fed lot making 2.8 pounds

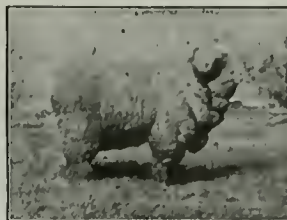
greater total gain and requiring seventeen pounds less grain and fifty-three pounds less hay for 100 pounds of gain as compared with another lot fed barley and oats. Wheat when supplemented with some bulkier grain is a safe and economical feed for sheep. Field peas have been fed in several sections of the west and have not only produced quantity of gain, but have desirable effects on the flavor of the cuts from the carcass. Oats can be used to supplement other grains, but have a limited field for fleshing lambs when fed alone. "Corn, the only feed" idea, has been exploded. It is not necessary for success and 513 lambs were fed in 1912-13 without a pound of it. Practice differs somewhat as to amounts of grain fed. Lambs can be made to take two pounds per head daily, but best practice seems to indicate a maximum of not more than one and one-half pounds. In no case should more than one-eighth to one-fourth of a pound be fed at the start.

After the problem of feeding comes the question of equipment. Here the west scores over the east. Western feed-lots are dry, or by liberal bedding of straw can be kept dry, for the greater portion of the feeding season. The air is bracing and sunshine plentiful and expensive shelter unnecessary. In few sections of the west is overhead shelter necessary, and successful feeding does not demand such trouble and expense. A six-foot tight board fence against the prevailing winds is commonly used and very effective in periods of wind or driving snow.

Hay may be fed in self-feeding racks or on the ground. The Colorado Experiment Station estimates that the self-feeder saves enough hay in three years to pay for the cost of construction. When hay is fed on the ground the lambs get it by reaching through a fence made of hurdles. The hurdles or panels serve both as a means of saving hay and to make the enclosure for the feed-lot or yard. Practice is quite uniform in grain feeding, using troughs in a separate inclosure. These troughs are twelve to sixteen feet long, twelve inches wide and three and one-half inches deep and suspended by supports in such a way that they can be turned bottom side upward when not in use.

Grinding and chopping machinery are not necessary. Lambs masticate grains well and permit little to leave the digestive tract as waste. They can grind grains much cheaper than can the farmer. There is yet some uncertainty regarding the advisability of cutting and grinding alfalfa. The Colorado station holds that cutting or chopping saves no more than the cost involved, except in case of damaged hay. With alfalfa hay as low as \$3 to \$7 per ton, the grinding of hay

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1000 Ewes

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A Number of Young Duroc Boars and Open Gilts

ENTERPRISE FARMS

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fine can hardly be made to pay under any circumstances. In the Idaho experiments of 1912-13 the waste stems and refused portions of the hay were weighed back and found to constitute 16 per cent of the total hay fed. Could the same gains have been made on the lambs by using 16 per cent less of cut hay, the saving would have been \$59.50. To have cut or chopped the hay actually eaten, 61.64 tons, would have cost \$61.64, a net loss of \$2.14. This is taking it for granted that 61.64 tons of cut hay would have given the same gains as 73.54 tons of uncut hay, which proposition is open to serious question. Grinding would have resulted in even greater relative loss. Pure water must be provided and adequate arrangements made for salt.

After the prospective feeder knows that feeds of the right kind and in sufficient quantity can be had at reasonable prices, and when he has made preparations in fences, yards, troughs, etc., for handling a band of lambs, he is ready to consider purchasing. Thrift, uniformity, size and type are things to seek in a feeder lamb. The thrifty ones have large frames and digestive tracts in condition to handle plenty of feed and take on flesh rapidly and economically. A uniform band gives better results in the feed lot and is much easier sold to advantage. Lambs of the low-set, thick, deep, compact, wide-beaded, short-necked, wide-ribbed and heavy-legged kind that feed most readily, make better use of it and make a finished product much nearer market standards than those that lack in the things indicated. Medium-sized lambs should be chosen if possible. The small ones are likely to be culls or to be from an unthrifty band or deficient in mutton blood. Large ones may be

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American Merino
Sheep

RED POLLED BULLS FOR SALE

Take electric car at Petaluma or Santa Rosa for Live Oak Station. Address:

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An English sheep farmer from Australia, of large experience in sheep ranching, expert in cultivating pastures for fattening stock, early spring lambs, and growing fine wool, is now open for an engagement to manage or establish a first class ranch.

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Hides, Tallow, Wool, Furs
and Skins220-226 Townsend St., bet. 3d and 4th,
San Francisco, Cal.

San Ramon Shropshire Flock

PRIZES WON BY FLOCK, 1912:

California State Fair—Six firsts, Champion Ram and Champion Ewe.

Oregon State Fair—Two firsts, Champion Ram and Champion Ewe.

Spokane (Wash.) Interstate Fair—Five firsts, Champion Ewe.

Boise (Idaho) Intermountain Fair—Eleven firsts, Champion Ram and Ewe over all breeds.

PUREBRED AND REGISTERED SHROPSHIRE
RAMS FOR SALE, INDIVIDUAL OR CARLOAD
LOTS.First Prize Ewe Lamb
at Omaha.First Prize Ram Lamb
at Omaha.

BISHOP BROTHERS, SAN RAMON, CALIFORNIA

Mention The Live Stock and Dairy Journal When Writing to Advertisers.

a little coarse, and if fed for any considerable period go beyond the popular market weights. Less than fifty-five pounds is small and about seventy-five leaves little margin for the feeder to work upon. Feeder lambs averaging sixty to sixty-five pounds are handy weights. Such lambs should be prime for market in ninety days.

The question of price is an all-important one. "Lambs well bought are half sold," was truly said by a prominent western feeder. Prices are not uniform contiguous to the range and vary from 4 to 6 cents. A few good lambs were picked up at 4½ cents in Southern Idaho this year, some sold as high as 6, but the bulk went at around 5. Many sold at \$3, guaranteeing a sixty-pound average. In many cases the western feeder is near the range and has but a few miles to drive his lambs overland to the feed lots.

The present movement is toward more western finishing and the feed lots are being moved constantly nearer the range breeding and the pasture

grounds. Two factors have been instrumental in this movement. The alfalfa belt has moved nearer the range in such states as Montana, Idaho, Washington and Oregon; and, as has been Idaho's experience, there is in the early history of new irrigation tracts little market for surplus alfalfa. A second and important factor has been the discovery that corn is no longer the king and autocrat in lamb feeding, but that small grains of such high quality as is common under western growing conditions have strong claims for joint possession of the throne.

The movement toward more western lamb feeding and finishing much nearer their range home, especially strong now in Idaho, is an active and vital one. More finished and less thin live stock will leave the west, less shipping of bulky feeds and higher soil fertility will result and a profound influence will be wielded in improving methods of western live stock management.

R. F. Guerin of Tulare County, Cal., recently sold a bunch of registered Holstein-Friesian heifers to George A. Smith of Corcoran, well known in Jersey circles.

GOAT RANGE IN THE MONTEREY NATIONAL FOREST

The supervisors of the Monterey National Forest announces that there will be available this season two distinct unused, vacant ranges suitable to the grazing of 2,000 head of goats. These ranges have been unused for a number of years and since the establishment of the Monterey National Forest in 1907 have not been utilized for the grazing of this class of stock.

One range comprising approximately 25,000 acres is situated on the headwaters of the Arroyo Seco River in Township 20 S., R. 4 E., and has an estimated carrying capacity of 1,200 head of goats for the regular summer grazing season, viz., from April 1 to September 20. This range is accessible either from Soledad up the Arroyo Seco River by county road, distance twenty-three miles; or by the way of Jolon, up the San Anton River and Government trail. Distance thirty miles.

The other range is located in T. 19 S., R. 4 and 5 E., on the headwaters of Finches Creek, a branch of the Carmel River, west of Fresno Canyon and comprises about 16,000 acres of broken brush covered country. The

estimated carrying capacity of this range is 800 head of goats for the regular summer season.

This range is about twenty-two miles from Soledad and about thirty-five miles from Salinas and is accessible by county roads.

The forage on these ranges consists of laurel, pea vine, mahogany, poison oak, buckthorn, bear berry, different varieties of lilac and different species of oaks. Along the water course and in the open glades grasses abound in sufficient quantity for the necessary stock used in the care of the herds.

For further information apply to Forest Supervisor Norman H. Sloane, Arbolado, California.

GOVERNMENT HELPS CONSTRUCT DRIFT FENCE FOR STOCK.

In order to control the movement of sheep and cattle grazed under permit on the national forests, the government is constructing what is known as drift fences. These fences facilitate the counting and handling of the animals, regulate the time when stock may enter the forests, restrict grazing to certain areas, and serve either to protect some grazing grounds or to secure a complete utilization of forage on others. Drift fences are not enclosures, but generally extend for long distances across the country to keep the stock from going in certain directions, or "drifting" to use a cattleman's expression, or to restrict them to certain specified areas in winter and other areas for the summer. They may also prevent stock from grazing upon areas where poisonous plants are found, thus preventing losses and lessening the cost of herding; and they have also proved an excellent means of eliminating controversies among neighboring permittees.

One of the most important drift fences in the national forests of California is located on the Kern Forest and is known as the "Monarch Drift Fence." This drift fence divides two of the principal community ranges on the Kern Forest and is intended to separate what is known as the "Inyo County Applicants" from the "South Fork of the Kern River Applicants." The stockmen assessed themselves a certain amount, based on the number of head of stock they had under permit, and in co-operation with the Forest Service have completed six and a half miles. This fence has improved the carrying capacity of the range 40 per cent has bettered the condition of the stock 25 per cent; has cut down the cost of handling the stock to the permittees 75 per cent; and has aided the Forest Service in administering the grazing business 90 per cent.

DON'T FORGET APRIL 2ND.

The consignment sale of Jerseys to be held at G. O. Miller ranch, Modesto, Cal., on April 2nd, will be in the minds of prospective Jersey buyers from now on until that date. The catalogue of the sale reveals a group of registered Jerseys the like of which will probably not again be offered at public sale in California for years to come. There is a tremendous demand at the present time for foundation stock, and there is a fine opportunity at this sale to secure foundation herds. The young things offered should have the especial attention of buyers intending to found breeding herds. Many of the females are of the most approved breeding, and with proper development should be made to rank among the best producers in the State at maturity.

There is no need to urge attendance at the sale, for there is abundant indication even at this time that buyers are going to be there in force.

MORSE'S Alfalfa

There is no grade of alfalfa seed raised that equals Morse's because

It has passed a rigid Government test for purity.

It has passed a severe germination test at our seed testing station.

It has been saved from clean, high land.

The same care is given to all

Our Farm and Field Seeds

We always carry in stock the finest samples of

Sorgham, Cow Peas, Pasture Grasses, Clovers, Field Corn, Sunflowers, etc.

Our strains of

Pumpkin and Stock Beets

are of that high quality desired by all careful farmers.

If you are thinking of

Onion or Tomato Seed

we can fully recommend as the best in quality our Australian Brown, all globe or flat, Red, Yellow or White Onions—or the Stone, Earliana, Matchless or the New San Jose Canner, Tomatoes.

Write us for quotations—you'll find our prices right—our seeds right—our methods right.

A Reliable Book on Alfalfa

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THE FARM WOMAN'S PAGE

CONDUCTED BY AUNT MARCEL

This department is conducted for the purpose of dealing in a helpful way with the many problems which are encountered by the woman on the farm. Household and home questions from our women readers are encouraged. Address all correspondence for this department to Aunt Marcel, The Live Stock and Dairy Journal, Sacramento, California.

GOAT'S MILK FOR THE BABIES.

When the baby has to go on the bottle or is old enough to wean there is no milk so safe as goat's milk for the purpose, and if it is at all possible to keep the baby on it through teething a good deal of intestinal trouble so common to young children may be saved.

Of course this milk must be diluted according to the age of the child and must be kept perfectly sterile the same as any infant's food. Everything it touches must be boiled after every milking. The ordinary variety of goat is not a very prolific milker although the milk is just as good as a food. There are, however, for sale in certain places milk goats which give from one to three quarts a day and milk for a year at a time. The milk being very rich is excellent for general house use and will not sour nearly so quickly as cow's milk. Goats are easy to keep and cheap to feed and they give a much larger amount of milk in proportion to the food consumed than a cow does, hence are much more economical. They can be hobbled and allowed to graze near the house. A milk goat soon becomes as gentle as a dog and will follow the keeper everywhere. In view of the very great value of their milk as a substitute for the natural food of babies and their many other advantages it is surprising that we do not see more of them. In many European countries they are used almost exclusively for the house.

CREAM BISCUITS.

Many people think that the dough for baking powder biscuits should be very soft. This is a mistake. It should neither be too soft or too stiff and should be worked as lightly as possible until it is smooth and uniform. The best baking powder biscuits are made with cream. If the cream is very thick use three-quarters cream and one-quarter milk. If it is a little sour it is all the better, but it must have a little soda. A pinch of soda dissolved in a spoon of hot water to a cupful of cream is sufficient. The baking powder is used just the same.

Take one pint of flour, one-half teaspoon salt, one and one-quarter heaping teaspoons baking powder, one scant cup of cream. Add the baking powder and salt to the flour and sift three times. Use a round bowl and with a spoon fit the flour to the shape of the bowl. Now pour the cream into the center and with a spoon stir it in the center so that a very little of the flour is mixed in at a time until it is stiff enough to mold. Turn it onto a board and work lightly and quick into a smooth, firm dough. Roll it not more than a half inch thick and cut with a small cutter. Flour the pan lightly and do not let the biscuits touch each other. Bake in a medium hot oven.

SPRING COLORS.

The fashionable colors this year will be wistaria, tan, copenhagen blue, and terra cotta. In the wools there is the new E'pingle. It is something the weave of the poplins, of a beautiful texture and promises to give good service. It is entirely suitable for a light spring one-piece suit with jacket or dress alone. In the cotton goods the stores are showing a heavy material called E'ponge in all the plain colors as well as checks and plaids. It is similar to ratine but finer weave much prettier and looks as though it would wear and clean better, which they claim it will. It is also pretty for spring suits, one-piece dresses and separate skirts and would be cooler than the E'pingle. It is going to be very popular in the city and would be very serviceable for country women. A new material, cheap, for children's dresses or waists is chepe'tine which comes in all the light colors and white.

BOOK SUGGESTIONS.

"The Cheerful Smugglers," by Ellis Parker Butler is an amusing little volume full of the author's distinctive wit. It is not so uproariously funny as "Pigs Is Pigs" but is rich in clever humor at the expense of our customs system, the natural dexterity of the average American for evading it and his zeal in preventing his fellow citizens from doing likewise.

"Pollyooly," by Jepson is a quaint story of London life. It is overdrawn and perhaps a little tedious at times but on the whole is very readable and one may pass a pleasant evening with its child heroine and her amazing adventures.

READING MATTER FOR THE HOME.

People on farms, men as well as women, are frequently so isolated from the outside world that it is very easy to lose sight of what is going on, sliding into a rut from which it is most difficult to pull one's self. Under favorable circumstances, farm life can be made very desirable despite its many hardships for after all the ideal life is not by any means the one of ease. However, due to the lack of that peculiar stimulus to be derived from constant association with other people many farmers allow themselves to lose interest in current events and by so doing so very greatly narrow their lives and views.

Practically the only medium available to them for keeping in touch with the world at large is through their reading. There is no reason why farmers should not be as well read as other people and while papers, magazines and books may seem an unnecessary expense one should consider the many small ways in

which we would all spend money for amusement if we lived in or near a city and which would amount in a year to as much or more than we spend for reading on the ranch. Amusement and diversion are necessary for all of us and since our reading matter on the farm is not only our source of information but to a large extent must take the place of the pleasures available to those in or near a city a sum each year should be set aside from the household fund for the purpose of purchasing family literature. It will keep the members of the family alive mentally as much as food does physically and should be regarded as a necessity and not as a luxury.

We can all afford at least one large daily paper and the leading farm journals. There are, indeed, in this State, I am glad to say, very few farmers who do not appreciate the great value of our farm papers and who do not take from one to six. But the reading matter should not stop there and every one should have access to at least four of the leading eastern magazines on general subjects. The fiction to be found in them is amusing and easy to read when one is tired and the articles on politics, history, art, finance and other topics of vital import are exceedingly valuable from an educational standpoint. In them one meets the leading writers and great men and women of the day.

However, unlike our farm journals which contain such valuable practical information that we file many for future reference, after the family has finished the general magazine it must be discarded or the house is soon overrun with them. It is, accordingly, a very good plan for several families living at convenient distances to club together and each take different magazines passing them on as they are finished reading them. For instance, if three families form a club in which each family takes three magazines nine different magazines would be accessible to the members of each family every month and the expense would not be so very great to any one of them.

There are every year many new books of fiction being published which are widely read and discussed. Few of us can afford to buy them all and few of the books are of the type that we would care to fill our home library with for future reading. A book club furnishes the opportunity for reading a good many of them and over comes the above difficulties.

Twenty-five or thirty women (more or less) band together and send for as many books, each contributing from \$1.25 to \$1.50 apiece. The books must be sent to the home of one of them who then proceeds to distribute them. In each book a list such as the following must be pasted:

Mrs. Jones	Jan. 10
Mrs. Brown	Jan. 20
Mrs. Smith	Jan. 30

etc. This means that on Jan. 10 Mrs. Jones received the book having the above list in it and that on Jan. 20 she is to pass it to Mrs. Brown who on Jan. 30 will pass it to Mrs. Smith and so on, until the last woman to receive the book will keep it as her own. The book which Mrs. Brown receives on Jan. 10 will have the following list:

Mrs. Brown	Jan. 10
Mrs. Smith	Jan. 20
Mrs. Jones	Jan. 30

and of course the list in each book would be different to the same extent. Each member passes to the same member each time, all lists must be accurate and plainly written, all books covered and carefully handled by each person and passed promptly. The more members in the club the greater the advantage, of course. There are many book dealers who make a special price on books in a club of this kind. It is not, however, wise to leave the selection to the dealer, but one can easily post themselves on the best late books through the magazine reviews. Make out your list and send for an average price on them delivered before collecting your money.

SUGGESTIONS FOR DOING OVER THE WALLS

Have you ever entered a room in which the walls were the first thing to impress themselves upon your mind? The walls in a room should simply form a blended background for the whole, possessing no other individuality of their own. For this reason only soft-toned plain papers, tapestries, faint stripes or figures of unconventional design should be used in wall papers. Papers with decided designs and vivid colors may appear attractive at a first glance, but they soon become exceedingly tiresome and invariably clash with everything in the room, producing a hideously incongruous effect.

Tans, browns or greys are best for



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a living or dining room, and may be had in plain or tapestried papers at reasonable prices. In the plain papers there are the new Munich Fibres and Two Tones, both of which are exceedingly pretty for these rooms. Of course, if one wishes to pay a little more, the imitation leather in the browns are very rich, though their general effect is a little heavy except in large, high-ceilinged rooms. In a tan or brown room any of these papers with a cream ceiling and wood-work, and ecru curtains, is a good combination. Unless one can afford a really expensive curtain, hemstitched scrimm is pretty in an ecru. In a grey room the tapestries are lovely with a paler grey ceiling, white wood-work and soft white curtains of swiss or dimity hung very full.

In bedrooms one, of course, has a wider scope. Pale blues, pinks, greens, lavenders or greys are dainty, depending upon one's individual taste and the other furnishings of the room. To produce harmony one color must prevail and the faint stripes with the cut out flowered borders used now are certainly artistic. However, the cut out border designs come only in the expensive papers and almost the same general effect can be produced with the cheaper papers by being careful to select those with the same soft tones and cutting out the borders at home. White woodwork is always prettiest in bedrooms and bathrooms.

For the kitchen I think there is nothing so nice as ceiling which can be freshly painted every year at slight expense and trouble. A bright blue with white trimmings is fresh and clean looking, and, hence, attractive. If the kitchen must be papered, undoubtedly the best thing is the prepared wall oilcloth in imitation tiles, which is also excellent in the bathroom. However, this is very expensive and the washable papers will produce as good an effect, but will not wear as well.

In selecting your papers remember that fads are seldom artistic and easily tired of, and that a standard article is always more satisfactory in the long run. Make your house distinctive for its harmony and good taste and not for its oddity.

RANGE CAN BE RESTORED WITHOUT CLOSING IT.

That a serious decline in the carrying capacity of vast areas of western grazing lands, due largely to the fact that stockmen fail to give the range plants a chance to keep growing, can be remedied without closing

these areas to cattle and sheep, is the statement made by the department of agriculture in a bulletin recently issued on range improvement. Excessive grazing in the spring before the forage crop is mature, and such grazing continued year after year, says the department, are the main cause of range deterioration.

On the national forests, the department points out, where the government is doing away with these evils and stock is handled under government regulation, the range lands have improved to a point where it is again possible to market large numbers of beef and mutton animals directly from the range.

In the "free for all" period of early days, the department goes on to say, the most palatable forage plants were so closely cropped that they were unable to develop the necessary plant food, and so literally starved. In addition, the roots were frequently injured by trampling or killed by exposure. As a result the best kinds of vegetation grew weaker from season to season, and where the practice of early and close grazing was continued, the range at last became practically denuded.

The vegetation which furnishes the grazing crop has much the same growth requirements as a farm crop. No farmer who hopes to realize the best returns from a permanent hay meadow, it is stated, would think of harvesting the crop as soon as it is tall enough to cut, regardless of whether or not it is mature. Nor would he graze a permanent pasture closely from the time the growth begins until it ceases, for he knows that this will result finally in killing it out. And since climate and soil conditions over much of the western grazing lands are less favorable to plant growth than those on the average farm, even greater care must be exercised in utilizing the range crop than is necessary with that on the farm.

The remedy suggested for range deterioration is a system of deferred grazing. Under such a plan an overgrazed portion of the range, sufficiently large to supply the forage from the time of seed maturity until the end of the grazing season, is protected from the stock until the seed crop has matured. Upon maturity of the seed crop the forage is grazed during the first season, but not to the extent of injuring seed plants. The same area is protected in the same way during the second and, if necessary, subsequent seasons, or until the new plants have been securely established. When the area has been thoroughly reseeded it can be again grazed early in the season, and a second area, large enough to accommodate the stock from the time of seed ripening to the end of the season, is protected until the forage is mature.

By this method of alternating late grazing from one area to another, weakened vegetation can recover its vitality without the need of having the land closed to grazing the entire year.

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POULTRY

USEFUL HINTS ON INCUBATION

(By James D. Yates, Poultry Judge.)

Now, or very soon, the incubator will be going. The early hatched chicks are usually most profitable in both laying stock and market poultry. A good incubator is a necessity if you want an even bunch of pullets for winter laying. Incubators are like the toper's liquor—all brands are good, but some are better than others. Good hot water and hot air machines hatch about equally well when properly managed. I use hot water machines. Most all reliable makes will do good hatching. Eggs awaiting incubation should be kept at 50 to 60 degrees F.

One very prominent and successful breeder gives his way of keeping the hatching eggs:

The method is to put the egg's little end downward in fluffy wheat bran to a sufficient depth that just the air chamber is well exposed, and leave till ready for incubation, thus eliminating turning.

This is all right if you are handling a limited number of eggs. Where a large number of eggs are handled, they are usually put in egg cases. I always turn the cases half over gently every two days.

Now that you are ready to start, to heat the machine, if it is a hot water incubator, pour in boiling water and save several hours time.

The regulating directions are usually given with each machine and it is best to follow the manufacturer's instructions. The 103 degree temperature and so on is usually well known.

It is poor practice to put more than one kind of eggs in the same machine; that is, the eggs of the heavier and lighter breeds together.

A little more time is required for the brown shell breeds than the ones that lay white eggs. The door of the incubator should not be opened after the chicks start to hatch till the hatch is completed. Below is a table that gives length of time required for incubating different fowls:

Name of fowl.	Days.
Common hen	21
Pleasant	25
Ducks, common	28
Pea fowl	28
Goose	30
Partridge	24
Turkey	28
Guinea	25

In operating the incubator, I always fill the lamps at noon; there are several reasons, but principally because no eggs are handled then and no danger of getting oil on them.

If you have good lamps, do not be afraid to use the regular ten-cent oil. I have machines that the lamps were not cool for four months, going steady, using the regular oil without the least bit of trouble, and I had two other machines that did cause trouble and were soon discarded. One had a flame regulator and the other one a complicated chimney and boiler.

After the first few days of incubation, don't be afraid of airing the eggs too much; if the air is mild and warm, it may take three-quarters of an hour to cool the eggs.

They should be cooled till you can

Leghorns and White Rocks

JAMES D. YATES, Expert Poultry Judge, Modesto, Calif.

I have White, Brown, and Buff Leghorn Chicks that will grow into nice winter laying pullets. All pure bred, and some will make exhibition stock, from proven good layers; \$10.00 per 100, \$90.00 per 1000.
Also White Plymouth Rock Chicks, Fischel strain, from the finest lot of hens you ever saw. I have only a limited number at \$13.50 per 100. Write today.

Incubator Chicks

White, Buff and Brown Leghorn, Black Minorca, White Rock. All high-class stock.
Send for Booklet of prices.

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just detect warmth in them by touching them, or, better yet, put the side of the egg to your cheek, which is more sensitive.

Test the eggs on the seventh, eleventh and fifteenth days. Keep the thermometer on a fertile egg.

It is better, quicker and easier to pinch off any char that may be on the wick at each time filling the lamp than to trim the wick.

Do not move the regulator too much. After it is regulated, the only time you may have to move it is towards the last of the hatch, when the chicks in the shell are helping produce the heat.

POULTRY SHOW OF SOUTHERN CALIFORNIA IN JANUARY.

This show was a great success in every way, a big attendance, a week of fine weather, an immense showing of fine birds, and the financial returns excellent.

The number of breeds, the divisions of each breed, and the additions that naturally go with such a show were so great that space can hardly be given for detail, but the pigeons alone were a full show by themselves, the canary room was another, and some of the big displays of some particular breed would easily constitute a separate show, so that it was well worth attending, and to see the blue ribbons, cups, and other prizes displayed in a large case and on shelf room, showed the management was to the fore in offering the exhibitors something worth while, but great credit is due the genial secretary, Mr. Joe E. Davis, for the complete success attained.

BANTAM AND AVAIRE SHOW OF ORANGE COUNTY.

This show was held at Santa Ana from January 20th to 24th, and though it was a stormy week the number of birds displayed was large, some extra fine specimens being there from near-by places and other states, and the number of classes was a surprise to many. The management is certainly to be congratulated on the fine display and good showing attained.

Poultry Editor The Live Stock and Dairy Journal: I have a hen that walks very lame as if she had rheumatism, she appears healthy otherwise, eats hearty, comb red, but it is difficult for her to get around. Please tell me the remedy. Oblige M. O. M., Los Angeles, Cal.

From your description of the symptoms she has no doubt that trouble, and the remedy is fifteen grains of iodine of potassium in a quart of drinking water daily for a week, then every second day. It will be convenient for you to get fifteen cents worth in fifteen grain doses, and keep it in a very dry place. Keep the hen dry and warm, and feed plenty of green-stuff, but no starchy or oily feeds.

Poultry Editor The Live Stock and Dairy Journal: I have two hens that are very fat at the rear, so that their feathers at that point seem to touch the ground. What is the cause, and the remedy? Thanking you, L. P. Whittier, Cal.

They have what is generally termed breakdown, caused by age and fatness, and it indicates they have got beyond usefulness in egg production. There is no cure, except to place them

cooked at the head of the dinner table.

Poultry Editor The Live Stock and Dairy Journal: I intend to commence with the poultry business in a medium way, and ask your advice whether to commence with baby chicks, with pullets, or with breeding hens. Awaiting your kind reply in The Live Stock and Dairy Journal, I am yours truly, H. O. T., Pomona, Cal.

If you expect to furnish eggs for market or for hatching and want to get an income almost from the commencement, I advise getting some pullets ready to lay or just commencing, in fact that way is safer in any case. If you desire to get experience in raising baby chicks, get those instead, but figure on expenses of keeping them till they produce.

Poultry Editor The Live Stock and Dairy Journal: I have a rooster that picks at the hens when they are feeding until he got filled, otherwise he is a good rooster. What shall I do to break him of the habit? Oblige yours, Y. T., San Diego, Cal.

Such a rooster is a glutton, and so is not a good one, but the only way to cure him is to prepare him for the table or sell him for the same purpose, for a good rooster must not only allow the hens to eat in peace, but should offer them choice pieces at intervals.

Poultry Editor The Live Stock and Dairy Journal: One hen in my yard laid very nearly two hundred eggs from last January to the present time. Would you consider that one a good layer? L. U. E., El Molina, Cal.

She certainly is a fine layer, and use a rooster with her that comes a rooster with her that comes from a fine laying hen.

Poultry Editor The Live Stock and Dairy Journal: I have had two chickens die from a peculiar disease, and when I examined them after death I found in the lungs some yellowish nodules about the size of a pinhead, other organs healthy in appearance. Before death they appeared sleepy, and weak, moved hardly any. Nothing that I gave them appeared to help. I will be pleased to hear from you on the subject in the next issue. Thanking you in advance. Yours, W. E. D., Bakersfield, Cal.

You did well in post mortem examination, and it shows conclusively they died from the disease of Aspergillosis, a fungus disease causing small tubercles or lesions sometimes in the trachea, in the lungs, in the air sacs, or other internal organs of the respiratory system. This disease may be caused by moldy grain, straw, or other dead organic matter, and inhaled in the system. There is practically no cure, but prevention should be attended to by seeing the poultry get good grain, dry and clean scratching material, with clean quarters.

MISCELLANEOUS.

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IMPORTED AND UTILITY HATCHING EGGS—White, Black, and Buff Orpingtons, White Leghorns, S. C. and R. C. Reds, Anconas, Silver Campines, and Faverolles. Write for mailing list. CHAS. F. HOLMAN, Stockton, Cal.

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BROWN LEGHORNS—A fine lot of breeding cockerels from best Eastern breeders. Also Buff Orpington males and females. Prices very reasonable. Eggs for hatching. FREDENSBORG RANCH, Suisun, Cal.

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BABY CHICKS—(White Leghorns.) Shipped on approval. Examine at your home before remitting. No weak ones charged for. SCHELLVILLE HATCHERY, R. I. Sonoma, Cal.

BARRED PLYMOUTH ROCKS—Winners at Fresno, December 4-7, 1913, first and third prizes; first second, third and fourth pullets; third and fifth cockerels. Stock for sale, also eggs from above winning females. W. L. KENNEDY, Box 20B, Fowler, Cal.

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FOR SALE—My entire dairy herd of one hundred and seventy-five cows, and five Pure-bred Holstein-Friesian bulls. C. A. MAGAW, Holtville, Imperial County, Cal.

CHOICE REGISTERED JERSEYS—One Golden Lad bull; 4 fresh young cows, \$600.00; 1 yearling heifer, \$75.00. F. E. Thayer, Live Oak, Cal.

WANTED—Forty head of very high grade young Holstein cows, large producers and sound. Give description and price in first letter. Address Box 101, The Live Stock and Dairy Journal, Sacramento, Cal.

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SOUTHBOUND.

No.	Leave Stockton	Arrive Lodi	Arrive Stockton
7	7:10a	8:45a	9:00a
13	9:10a	10:50a	11:05a
17	10:15a	11:45a	12:05p
27	12:15p	1:50p	2:05p
29	2:10p	2:45p	4:00p
35	4:10p	5:50p	6:05p
41	6:20p	7:55p	8:10p
47	9:00p	10:44p	10:55p

NORTHBOUND.

No.	Leave Stockton	Leave Lodi	Arrive Sacramento
4	6:00a	6:00a	7:55a
10	7:45a	8:00a	9:35a
18	10:00a	10:05a	11:45a
22	12:05p	12:20p	1:55p
28	1:45p	2:05p	3:35p
34	3:45p	4:05p	5:35p
40	5:45p	6:05p	7:35p
46	8:30p	8:40p	10:20p

STOCKTON-LODI SERVICE.

Leave Stockton.
A. M.—6:15, 6:05, 7:00, 8:00, 9:00, 10:05, 11:05.
P. M.—12:15, 1:10, 2:00, 3:00, 4:05, 5:05, 6:05, 7:10, 8:30, 9:55, 11:20.
*Daily except Sunday.

Trains Leave Lodi.

A. M.—12:05, *6:05, 7:00, 8:00, 9:00, 10:05, 11:05p.
P. M.—12:20, 1:00, 2:05, 3:00, 4:05, 5:00, 6:06, 7:00, 8:40, 9:10, 10:37.
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The Farm Garden

The leek is a vegetable whose value is not sufficiently appreciated for Winter use. The best varieties are Morse's American Flag and Giant Musselburgh. To get the best results from leek they should be sown in rows ten inches apart during March. A short row of thirty feet will give sufficient plants for an ordinary family. During June and July the plants should be transplanted to their Winter quarters. A trench about eighteen inches deep should be taken out and into the bottom put a layer several inches deep of fresh stable manure. This inches of well rotted manure and then eight inches of good soil. The leek should be planted three inches deep and six inches apart. By giving plenty of water during the dry months and keeping the leeks earthed up as they grow, good leeks with several inches of blanching will be had.

Lettuce can be grown easily in any garden and there is no one who does not like to have a nice fresh lettuce. There are four types of lettuce, the thick-leaved butterhead cabbage type, the thin tight heading crisp type, the non-heading and the cos type. The best butterheads are Big Boston and California Cream Butter. The best crisp heading varieties are Hanson and Los Angeles or New York. The crisp heading is the most popular class and Los Angeles is a variety that meets all demands for quality.

Of the non-heading varieties the Morse and Grand Rapids are the best. White Paris Cos is the finest cos variety.

Lettuce in many parts of California can be sown all the year round. Sow in rows fifteen inches apart, one-fourth inch deep and thin out plants eight inches apart when large enough to handle. One-half ounce will sow 100 feet. It is often more convenient to sow lettuce broadcast in a little patch and transplant when large enough to odd corners in the garden or for filling up the row as the matured ones are taken out. Lettuce transplants very easily so long as attention is given to watering. To get a perfect cos lettuce it is necessary to loosely tie a piece of raffia round the head to promote tight heading.

Muskmelons freshly gathered are always a treat and they can be grown without trouble in most Californian gardens. Rocky Ford is the one muskmelon to grow in a garden unless a salmon fleshed melon is wanted when Fordhook will prove the best. The seed should be planted after danger of frost has gone. Sow in hills six feet apart each way. Sow six or eight seeds to each hill and thin out to four strong plants. One ounce of seed will plant 100 hills. It is beneficial to give good waterings to the plants during fruiting season.

Watermelons with many are even more popular than muskmelons and where it is possible they should be included in the kitchen garden. Tom Watson is the very best variety for all purposes. Angeline and Kleckley Sweets are also favorites. Sow the seed about the middle of May in hills at least eight feet apart. Plant six

seeds to each hill and thin out to two strong plants as soon as third leaf shows.

Onions are a necessity to every housewife and they are easily grown in any garden. For Summer and Fall use Morse's Prizetaker is one of the best. Ohio Yellow Globe is also good. For Winter use Morse's Brown Globe and Australian Brown are best because of their excellent keeping qualities. Those preferring a mild white onion will find White Portuguese best but white onions will not keep when stored. As a red onion Red Wethersfield is best. Onion seed can be sown in most places during the early Spring months beginning in February. The rows should be twelve to fourteen inches apart and the seed sown one-half inch deep. One half ounce will sow a row of 100 feet. As soon as the plants are large enough to handle they should be thinned out to four inches apart unless it is intended to use the thinnings later on as green onions.

A place can always be found in some odd corner of the garden for a hill or two of pumpkins. For home use Small Sugar is one of the best. A large variety of good quality is Connecticut Field. Plant the seed in hills at least eight feet apart towards the end of April. Plant one inch deep and six or eight seeds to each hill. Thin out to four strong plants when third leaf has developed. One-half pound will sow 100 hills.

Radish everyone can grow with no trouble. For long varieties Brightest Long Scarlet, Chartier Red and Icicle-White are good. Good varieties of the Half Long kind are French Breakfast—Red tipped white, Celestial, White, and Half Long Scarlet. The best small round sorts are Early Round Dark-Red, Scarlet Turnip White Tipped and Early White Turnip.

Squash is treated in like manner to pumpkin. For Summer use Early White Bush Scallop is the best. Yellow Summer Crookneck is another fine variety. For Winter use Hubbard is the best variety. Boston Marrow comes next.

Tomatoes are another example of vegetable much better when gathered fresh. Good varieties are Bonny Best, Dwarf Giant and Matchless. If it is not possible to raise the plants in a hot bed plants can generally be had from the seed stores by mail. The plants should be set out six feet apart and in the garden if a good stout stake can be put in alongside the plant and the plants given a few ties as it grows, the result will be much more satisfactory. Frequent watering during fruiting season will be very beneficial.

Turnips though not easy to grow well in many places can be grown during certain seasons of the year with success.

The best varieties are Early White Flat Dutch, Purple Top Flat Dutch and Orange Jelly. Sow the seed in rows ten inches apart. Plant one-half ounce to each 100 feet and thin out the plants four inches apart. Turnips are best treated as a Winter vegetable. Sowings should be made at intervals commencing in August.

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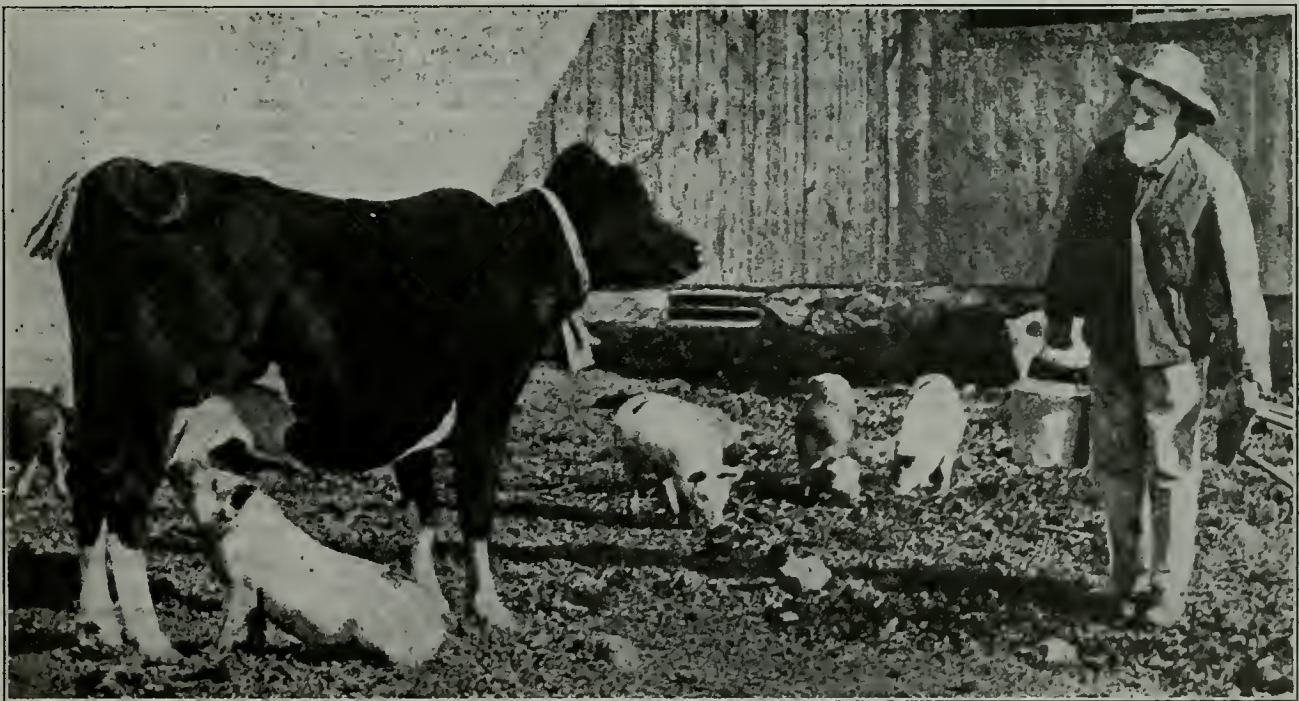
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APRIL, 1914



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BREEDING TO

BETTER STALLIONS

Talks with many mare owners in California indicate that there will be more mares bred to registered purebred stallions this year than during any previous breeding season. This is a very good indication of the advances which the purebred idea has made within the past year among draft horse owners. There is positively no logical reason for the service of a grade, cross bred, or mongrel stallion or jack at any time or any place, and the sooner their ownership is made to be unprofitable, the sooner will we be on the road to real constructive breeding of draft horses.

MUTTON BREEDS

IN BIG DEMAND

The distinctive mutton breeds of sheep are having a big season all over the United States. The principal cause for the increased demand for registered rams of the mutton breeds is found in the fact that most of the wool growers are breeding their ewes to produce a crop of market lambs, owing to the uncertainty of the wool market. It seems certain that the demand for mutton is going to be such that its growing will return satisfactory profits. We have an immense capacity for the production of the best quality of mutton on this coast, but as yet we are very sadly lacking in knowledge of proper feeding methods. The Idaho Experiment Station has contributed valuable data upon the feeding of lambs, and we may expect other tests to be conducted by other Coast stations. With a little more light upon the feeding problem it will be much easier to interest the average farmer in the profit possibility of a small flock, and it is not far fetched to make the prediction that the future wool market is going to be quite largely dependent upon the fleeces from the small flock of mixed mutton and wool blood.

FARM POWER DEMONSTRATION

We believe there will be a real demonstration of farm power machinery on the lands of the West Sacramento Company, just across the river from the City of Sacramento, on May 7-8-9. Profiting by the experience of the Fresno meet which was held at a season when the rain made it impos-

sible to put the great machines in action, a date has been selected which almost certainly insures fair weather. There will undoubtedly be a great great crown on hand during the three-day demonstration. In spite of the rain at Fresno, large ranch operators from distant parts of the State were on hand, and while they were disappointed in that the proposed exhibition could not be carried out, yet their presence was an indication of the immense interest which the progressive farmers of California have in improved farm power machinery, and it is certain that all participating manufacturers will do their level best to make the Sacramento meeting thoroughly instructive. Interest will center in the exhibition of tractors in actual operation. We believe that every leading make of tractor, large and small, that is sold on this coast will be there, and it will afford farm operators the best possible opportunity to compare the different makes, as they will all be working in one field, some 600 acres having been set aside for their use. There will also be working demonstrations of different plows, graders, levelers, and the other implements that belong to the soil. It will be an occasion well worth a long trip.

DUAL PURPOSE CATTLE

The "dual purpose" agitators are eternally with us, but up to the present time the theory involved seems unable to settle upon any one of several breeds. Insofar as the facts that her body is made up of edible flesh and that her lacteal system will produce milk, any cow of any breed may be said to be a "dual purpose" animal. Could we combine the volume of milk of the Holstein, the butterfat content of Jersey milk, the natural color of Guernsey milk, the vigor of the Ayrshire, the picturesque beauty of the Dutch Belted, and the finely flavored flesh of the Shorthorn, the Hereford, and the Angus, we might have an animal that would produce both quantity and quality of both meat and milk. In the meantime, if we look for heavy milk production, we must necessarily expect from the same animal an inferior quality of beef, and if we look for the highest quality of beef we must reasonably expect from the same animal a smaller production of milk and butter. It is not unlikely that a great deal of our future beef is going to be supplied by the strictly dairy breeds, for not so very far in the future beef will reach a price level that will make it profitable for the dairyman to raise a few steers that can be quite economically finished into a fair quality of beef.

HIGH PRICED FARM LABOR

Recent investigations by the Department of Agriculture reveal the fact that farm labor commands the highest price in the Pacific Coast States. It is safe in saying that, regardless of the fact that coast farmers are willing to pay high prices for labor, the average efficiency of the coast farm hand is considerably below that of the same class of workers in the East and Middle West. Back in the East, it takes a coking good man to command twenty-five dollars a month and board, and his year's work is confined to the seven or eight months when farm work is the heaviest. In the winter time he is sometimes able to arrange to do chores or get occasional work that will just about pay living expenses. The man who works for this wage in the East is not a hopeless drudge either. In most instances he works and saves toward buying a farm of his own, and with the experience gained during his years of working for other men, he is well equipped to manage his own business. There is better opportunity here in the West for a farm hand to eventu-

ally become an owner than there is in the East, and yet it appears as though there is a lack of ambition on the part of many of our farm workers. In the East the price of land is not so high, neither is it so productive. Acre for acre the initial investment would be about the same, for in the East climatic conditions are such that it is absolutely necessary to make a considerable investment in buildings. Here in the West the need for buildings is not so urgent and the initial investment in higher priced land is one that is better from every standpoint than if the bulk of the investment were in buildings. Again there is the certainty of greatly enhanced value in western farm land, once it has been improved, and there are any number of instances where this increase in value has represented a comfortable fortune. The high price of farm labor on this coast would be a trivial matter if the men who receive the wages could be developed into farm owners themselves, for the man who is ambitious to own his own farm is a better employee, and when his days of employment are over and he starts in on his own farm, he is a substantial asset to the community, for he is likely to be successful.

TEACH AGRICULTURE

IN THE CITY

Just at the moment our country has an "army of the unemployed," composed of small companies of idle men scattered pretty well over all sections. Their foolish plan was to march to Washington, the seat of the government that is to blame for their jobless condition. Just why the government is to blame, or how it would go about correcting its faults, no one seems to know. But at any rate the condition is one of most amazing foolishness. In an old nation of small agricultural resources, where there is a dense city population dependent upon manufacturing industries for its living, such a condition might be expected during a dull period in commercial lines, but when an "army of the unemployed" is created in a young nation of immense and undeveloped agricultural resources there is something wrong with the people, not with the country. Had the companies of this "army" carried out their plans and marched to Washington, they would have passed opportunity at every mile, and few would have known it. There is hardly a spot in the whole United States, from the abandoned farms of New England to the newest irrigation project in California, where an able-bodied man of fair intelligence may not earn a living and in most cases become independent. Independence cannot be earned with eight-hour days and high pay, either in city or country, and least of all in the country. The very fact that we have so much land calling for workers and so many idle men who cannot hear the call, suggests to us that it might be well to teach agriculture in city schools.

BETTER FARM HOMES

Illinois University has just issued a handsome booklet entitled "The Illinois Way of Beautifying the Farm." It is strikingly illustrated, and presents many clever ideas that have been put into actual practice on Illinois farms. There is room for a vast amount of farm beautifying in California. This State ought to have the most beautiful farms to be found anywhere in the country, but at the present time the really attractive farm is rare. The farm beautiful does not necessarily call for any great expenditure of money. The principal things in the scheme of beautifying the landscape are trees, shrubs, vines and flowers, and the proper arrangement in the planting of them. Surely these

things are cheaply enough grown in California to be within the reach of our newest settler, and a well-kept farm, with plenty of growing trees and flowers, has an attractiveness that is worth actual money. It is something of a shock to the average eastern farmer to note the bare buildings and treeless yards to be found on most of our farms. It doesn't look much like home, and it would take only a few trees to make a picture that would make a very much more pleasing impression.

PUREBREDS IN GROWING DEMAND

While the advantages of pure blood in a farm animals has become quite generally recognized in some localities, there is still only a very small percentage of the purebred sires used that should be used. The truth of the purebred idea is spreading steadily, though at the present time there is an actual shortage of desirable sires in most of the breeds. Rising land values, demand for quality in animal products from the consumer, and increased cost of operation of farms, are all factors that contribute to the necessity of owning better farm animals. Here on the Pacific Coast are now being bred and developed some of the best specimens of animals to be found anywhere. And yet the general run of farmers are still a long way from recognizing the real value of some of the pure blood that is now available. We are getting away from the scrub animal idea slowly—but we are getting away from it.

MUCH FEED—FEW CATTLE

There is an abundance of feed in all parts of California this year. There is a shortage of cattle, hogs and sheep to consume this abundance, and not a little of the shortage, of dairy cows especially, is due to the selling off of thousands of head during the last year when feed was short, to buyers from the irrigated sections of Oregon, Washington, Arizona and Nevada. There is no doubt but that practically all of this stock could have been carried easily in California, had its owners been equipped with silos. There is no place in California that cannot grow some sort of profitable crop that will make good ensilage, and a good supply of canned feed means insurance against dry seasons, ruinous selling prices of stock and the more serious loss that follows when there is a surplus of feed and no stock to eat it.

THE COUNTY ADVISER

The idea of county advisers sent out from the Agricultural College, is one of immense possibilities, limited only by the capabilities of the men chosen to fill these important places. One of the most useful fields for advisory work is that of animal husbandry. In the single item of increased dairy production a county adviser who is posted on the breeding of dairy cattle, ought to be able to form cow testing associations and bring about a quite general use of purebred sires out of tested ancestry. This would unquestionably result in an increased wealth to the State that would be far above the expense of the adviser, and once established would live through its own merits long after the adviser passes out. Most of our leading breeders of dairy cattle are now testing their herds for milk and butterfat production, and while bulls from tested dams are not going to be over-plentiful for a long time to come, yet there will be an ever increasing supply. Promoting the use of the purebred sire should be one of the foremost duties of the county adviser, for we doubt if there is any other single idea that would result in greater good if carried out.

THE DAIRY

The Sanitary Small Dairy and Its Importance in Improving the Milk and Butter Supply

Written for The Live Stock and Dairy Journal by George H. Hart, M. D.,
V. M. D., Chief Milk Inspector of Los Angeles.

The dairy interests of California are increasing so rapidly that we will soon be an exporting state in dairy products. The large land holdings are being divided into small tracts of from 5 to 40 acres and where these pieces of land are put into alfalfa the owners in many cases enter the dairy business as a means of gaining a livelihood. It may well be said therefore that a large proportion of our dairy products are produced on the small dairy. Thus for example in the country tributary to Los Angeles there are 648 so-called wholesale dairies the product of which is supplied to the city milk plants to be sold as fresh milk. Of this number 220 contain 5 cows or less and 508, or 78.4 per cent contain under 20 cows. It is therefore seen that Los Angeles is supplied mainly by small dairies, and it is from the small dairy on the small piece of land owned and operated by the producer that some of the best milk is produced. On the other hand the small dairy on a large piece of land is usually run as a side issue and given secondary consideration to the other agricultural pursuits. On such ranches the dairy invariably suffers during the busy seasons of the year when crops are being planted and harvested. When the product of the dairy is to be used in the city as fresh milk it is necessary to take precautions to keep it sweet in order that it will be marketable, but on the other hand many dairymen believe that where their product goes to the butter making establishment precautions are unnecessary because the creameries will receive the product whether it is sweet or not. Consequently, in some localities, the majority of the cream received at the creamery is beyond the stage where it would be marketable for consumption as milk or cream. This idea on the part of the dairymen has been the source of enormous losses to the dairy industry because it

necessitates the making of a great deal of butter of inferior grade which sells for a reduced price on the market. Therefore, the sooner dairymen realize the importance of placing clean sweet cream in the hands of the buttermaker and change their equipment and methods in such a way as to make this possible the sooner will inferior grades of butter be reduced to a minimum and the producer will receive the full return for his product. In order to encourage the dairymen to do this many of the creamery operators are at present paying a premium of 2 cents a pound butter fat for sweet cream delivered to the weighing platform over sour cream. Hundreds of dairies in this state today have been equipped in such a way that it is very difficult for their owners to carry out the proper sanitary regulations necessary for the delivery of a first class product. Many dairymen have been in the business for years and feel that any suggestions toward getting their dairies properly arranged and equipped are reflections on their knowledge of the business, and instead of attempting to learn by the experience of others will continue in the same old unsanitary methods and run with a reduced financial return as a result of their obstinacy.

It is often a difficult matter to make suggestions toward improving dairies where everything has been put up wrong with no effort made for convenience. However, new dairies are being started daily in this state and in many instances by persons who have had very little experience in dairying. It is with the hope of helping some of these places that the following suggestions are made; as the time to be of the most assistance to the dairymen is when the buildings are being constructed and he is starting into the business or is replacing old buildings with new ones.

Plan of Building Arrangement.

The first thought in constructing a dairy is to ascertain the direction of the prevailing wind. If for example this is from the west to the east the milk house or separator house should be located on the westward side, and if possible in such a place that it will not be exposed to clouds of dust from the road. A space of 10 to 15 feet between the milk house and stanchions is ample. The stanchions should run east and west. The fall of the stanchions should be toward the east so that manure and urine from the stanchion gutter will drain toward the eastern end away from the milk house. Two corrals should extend eastward from the eastern end of the stanchions and not extend along the north or south side of the stanchions.

Of course, drainage and prevailing wind must be taken into consideration simultaneously, thus, for example, if a dairy was to be located on a hillside and the prevailing wind was up the hill the stanchions and corral would not be properly placed above the milk house and of necessity have to drain back past it. In such a case the line of building arrangement would be at right angles to the prevailing wind with the milk house up the hill.

Where the stanchion is only 30 to 60 feet long as is the case in dairies of 20 cows or less it is recommended that instead of placing the corral directly at the eastern end of the stanchion it be connected with the stanchion by a lane of sufficient length that the corral will be 100 feet from the milk house. Most sanitary regulations require that the milk house be 100 feet away from an accumulation of filth, and more than 1 day's manure in a corral may be construed as an accumulation. In order to comply with such regulations it is better to move the corral away from the stanchions than to move the milk house away, because every bucket of milk should be taken to the milk house as soon as milked. It is much easier therefore to drive the cows twice daily up a lane 30 to 40 feet long than it is to carry each bucket of milk 30 to 40 feet farther to the milk house. Where the corral is cleaned daily it may of course be placed directly adjoining the stanchions no matter how short they may be.

The milk house should be close to the well or tank to avoid the neces-

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Quantity of cream that no other separator will recover completely, particularly under the harder conditions of every day use.

Quality of cream as evidenced by De Laval butter always scoring highest in every important contest.

Labor in every way over any gravity system, and also over any other separator, by turning easier, being simpler, easier to clean and requiring no adjustment.



Time by hours over any gravity system, and as well over any other separator by reason of greater capacity and the same reasons that save labor.

Cost since while a De Laval cream separator may cost a little more than a poor one to begin with it will last from ten to twenty years, while other separators wear out and require to be replaced in from one to five years.

Profit in more and better cream, with less labor and effort, every time milk is put through the machine, twice a day, or 730 times a year for every year the separator lasts.

Satisfaction, which is no small consideration, and can only come from knowing you have the best separator, with which you are sure you are at all times accomplishing the best possible results.

Easily proven—these are all facts capable of easy demonstration and proof to any user or intending buyer of a cream separator. Every De Laval agent is glad of a chance to prove them by a De Laval machine itself—without the slightest obligation on your part unless entirely satisfied.

If you don't know the nearest De Laval agent, simply address the nearest main office as below.

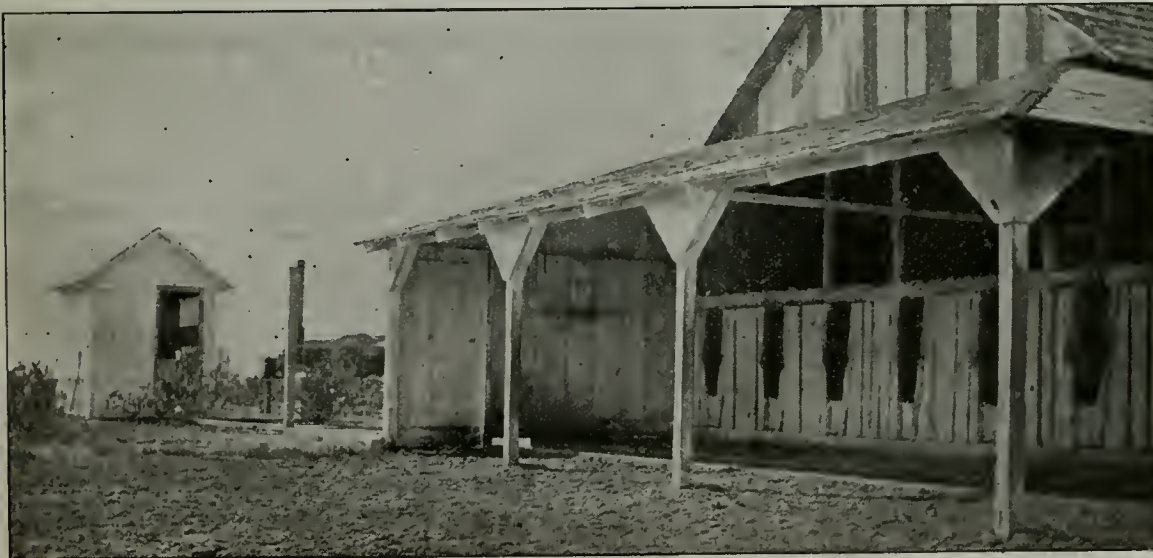
DE LAVAL DAIRY SUPPLY CO.

165 Broadway
New York

101 Drum St.
San Francisco

1016 Western Ave.
Seattle

50,000 BRANCHES AND LOCAL
AGENCIES THE WORLD OVER



Showing proper arrangement of stanchions and milk house. The two are connected by cement walk. The sterilizer is shown to the right of milk house. Note the stanchions built directly out from one side of feed barn. Made with wooden floor and cement gutter. This entire barn was built by the owner, of second-hand lumber costing \$35.00 and his time and labor. The main barn is 18'x30' and stores 10 tons of hay. The stanchions shed is 28'x13'. The milk house is built with ventilating screen window placed opposite the floor on the side from which the prevailing wind blows. The window shown is much larger than is necessary for ventilation only. This milk house is 6'x8' with cement floor and shake roof. Built at a cost of \$10.20, exclusive of labor.

Mention The Live Stock and Dairy Journal When Writing to Advertisers.

AYRSHIRES

Of seven WORLD'S RECORDS for yearly production made in recent years, in all countries, Willowmoor Farms hold three.

J. W. CLISE, Redmond, Wash.

sity of piping water any distance to it with the result that during the summer months this water will rise in temperature during its passage through the pipes and thus reduce its value as a cooling agent for the milk and cream. A feed barn may be placed to the north or south of the stanchions and as close as desired. On some small dairies the stanchions are placed directly out from one side of this barn.

No hay should be handled in such a barn during milking time on account of the dust which arises from it. It should always be remembered that the horse stable is not a part of the dairy and should be placed at least 100 feet away from the milk house and 50 feet from the stanchions, proximity to the corral not being so objectionable, but in no case should the horses and cattle use the same corral.

Construction of the Buildings.

Milk House.

The milk house should be large enough to allow space for the dairy apparatus and ample room for the dairyman to move around in doing the necessary work. For a dairy of 10 to 20 cows 8 feet square will answer this purpose, and when the dairy consists of from 5 to 6 or 8 cows, 5 or 6 feet square is ample especially where no separator is used. However, the extra cost of adding one or two feet to the dimensions of a milk house is so slight that it does not pay to be crowded.

The floor of the milk house should be of cement and around its edges a coping 2 or 3 inches high of cement should be made on which the wooden sills for the sides are laid. This allows the floor of the milk house to be flushed out frequently without the wooden sills getting constantly

wet and becoming water-soaked. The floor should slope sufficiently toward the drain that all water will run off. A two-inch iron pipe laid in the cement coping at one corner furnishes a good drain. The drain should carry the water not less than 50 feet from the milk house, unless a covered cesspool is used. Where milk or cream is kept for any length of time before delivery, even if only over night, it is well to have a cement trough built in the milk house large enough to hold from two to four cans so that the product of the night milking can be kept cool by placing it in the water in this trough. The ventilation of a milk house is important as moisture is one of the necessary elements for bacterial growth; and a milk house that is dry is not nearly so likely to have bad odors in it as one which is constantly damp. In the roof a small screened ventilator should be placed.

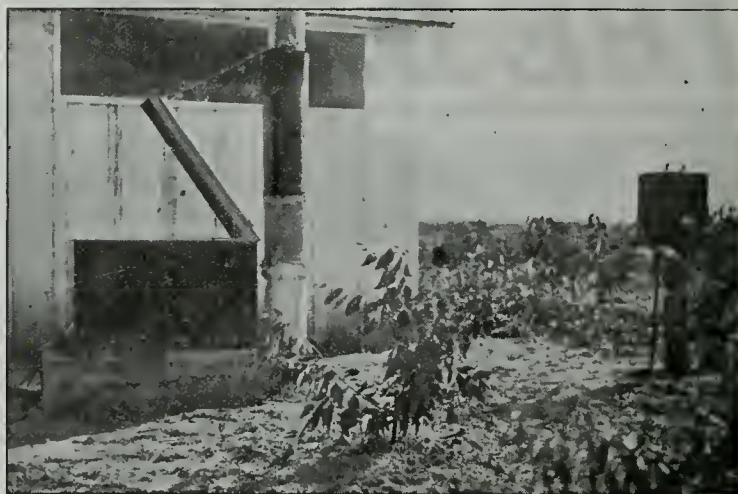
A window preferably not over 6 inches high, or a small screened opening should also be placed just above the floor on the side from which the prevailing wind comes. This keeps the floor dry and if there is any dust in the air it enters the milk house low and settles on the floor rather than in an open receiving tank or milk can which is the case where milk houses have merely a screen for a window half way up the side from which the wind blows. On the opposite side the window may be placed half way up the side or directly under the eaves. The washing of utensils may be done in the milk house although the water for this purpose should be heated outside. The sterilizer should be placed outside the milk house but in close proximity to it, preferably under a shed which leans out from one side of the milk house so it may be used without difficulty in rainy weather.

The sterilizer is all too frequently overlooked in equipping a dairy and yet its importance is very great as the dairy utensils are never properly cleaned until they have been sterilized. Prior to sterilizing, the utensils including cooler and strainer cloths should be rinsed in hot water containing a cleansing powder, rinsed thoroughly, and placed in the sterilizer. The water for washing may be heated in the sterilizer, and only about two inches of water left in the tank for steam. This small quantity of water will heat very quickly and thus save time and fuel.

After the tinware has been sterilized it should be placed inside the milk house away from dust and flies. Sunlight is not necessary for dairy utensils properly washed and sterilized. Where this is neglected sunlight will of course retard the development of bacteria left on the tinware and keep it in better condition.

Stanchions.

The floor of the stanchions should be of cement finished rough or grooved to prevent the cattle from slipping. Where this work is properly done there is no danger of the cattle being injured, and while cattle have been injured on cement floored barns and stanchions this can not be used as an argument against cement floors; because in practically every instance upon investigation these ac-



Closer view of sterilizer shown in first illustration. The sterilizer tank is 16"x20"x30" and holds all the utensils at one time. It is heated by means of an oil burner in the brick fireplace burning No. 3 distillate. Such an apparatus can be installed, when the tank is of galvanized iron, for from \$11.00 to \$12.00. The utensils are steamed inside this box for 20 minutes after each time they are used.

RHOADES & RHOADES

EXPERT LIVE STOCK AUCTIONEERS

HORSES, HOGS, COWS—Sales Conducted in All Parts of California and Adjoining States. Write for Dates and Terms.

OFFICE, 1501-3-5 SOUTH MAIN STREET,

LOS ANGELES, CAL.

50% +

The beneficial effect of the blood of a pure-bred bull of prepotency, upon his offspring out of grade cows, is more than 50%, owing to the strength of his breeding.

The demand for good dairy cows far exceeds the supply, and the market for unproductive cows is rapidly narrowing.

50% + of strong Jersey blood may be secured in your next crop of heifer calves by using one of our young bulls.

We have a few choicely bred bull calves for sale, sired by KING'S VALET and BORELLO'S GOLDEN LADDIE.

N. H. LOCKE CO., Lockeford, California

NO FEMALES FOR SALE AT PRESENT

JERSEY TYPE

JERSEY QUALITY

We have a few handsome, vigorous young bulls out of our best cows and sired by MERRY MAIDEN'S CONQUEST, a son of MERRY MAIDEN'S 3D SON, Grand Champion Jersey bull at St. Louis Exposition.

By owning one of these bulls you can introduce into your herd the blood of one of the best bulls of the breed.

Come and see our herd or write your needs. Prompt attention to correspondence.

B. & F. RANCH, F. O. FRAZIER, COVINA, CAL.

JERSEY BULLS

Sired by GERTIE'S LAD, and out of Official Test cows. Prices Right. Papers Free.

Also two broken colored St. Lambert Bulls of exceptional breeding, at a bargain. Particulars on request.

Conducted by D. S. KAY, D. V. S.

X. CARRITHERS, R. 3, Box 105, Tulare, Cal.

Reference, First National Bank of Tulare.

BREED for INCREASED FAT PRODUCTION

By using a Pure-bred Jersey Bull carrying the blood of heavy producers. I offer a 13-months-old Registered Bull, sired by General Grimm and out of Lady Burdette 4th, an Inbred Grand Roter Cow that milked 33 pounds of 5.1% milk in one day with first calf. This Bull is a good individual, solid color. Price \$125.00.

WILLOWWOOD JERSEY FARM

C. G. McFARLAND, Prop. R. 2

TULARE, CAL.

WE LEAD IN JERSEYS

We are unable to fill our present demand for Jersey helpers, and have no more for sale.

We offer a few richly bred Bulls, ranging in age from 8 to 18 months. Write for breeding and prices.

Rancho Dos Rios, R. E. WATSON, R. F. D. 2, Modesto, Cal.
Manager

VENADERA HERD
of Registered
JERSEYS
Guy H. Miller, Prop.
MODESTO CALIFORNIA

Rancho Santa Marguerita
Registered Jerseys
OFFICIALLY TESTED

D. F. CONANT

R5, Box 64

Modesto, Cal.

REGISTERED JERSEYS

I offer for sale a yearling son of Brown Laeale's Advocate (80045), out of Antoinette's Mona. Also two bull calves, one sired by Brown Laeale's Advocate, the other by Brown Laeale's Conqueror, and out of richly bred dams. Write for prices.

F. M. DIMOCK

R. No. 2,

TURLOCK, CAL.

REGISTERED JERSEYS

Young Bulls and Heifers for sale. Sired by Interested Monplaisir and out of St. Lambert cows. Call or write for prices.

J. F. SNOVER

R. 2.

CERES, CAL.

cidents have been found to occur on floors which had been finished too smooth.

Depending on the size of the cattle in the dairy the floor from the stanchions to the gutter should be from 4 feet 8 inches to 5 feet in length. Where the gutter is properly constructed it is very doubtful if this distance should ever exceed 5 feet even when the entire herd is composed of large Holstein cows. The floor should have a one-inch fall backward toward the gutter. The gutter should be 18 inches wide and 4 inches deep. It is preferable to have a slight fall backward in the gutter so the urine will drain off along the rear edge and not form in pools due to being dammed by the manure. If this is done three to 3½ inches is deep enough for the front portion of the gutter. The fall of the floor and gutter lengthwise should be ample to insure good drainage and for a 15 cow stanchion this should be from 4 to 6 inches. In case the dairy barn is to have a rear wall the space between the gutter and the rear wall should be at least 4 feet, and 5 feet is preferable. This portion of the floor should have a 1-inch pitch toward the gutter. In figuring the length of the barn from 3 feet to 3 feet 6 inches should be allowed as stall room for each cow.

When the sides and ends of the stanchions are boarded up there should be a ventilator placed in the roof to insure better circulation of air. Where the stanchions have merely an open shed built over them this is not necessary.



Three small stanchions with cement floor, for ten cows. Cost 45.00. Notice large feed barn in background.

The drainage from the stanchions is important. The ideal method is to have them drain into the irrigation system so that this material can be flushed out on the land with the least amount of labor. When this can not be done a covered cesspool should be placed at the end of the gutter. This has to be dipped out as it fills and needs daily attention to keep it from running over. When the stanchions are on a hillside or sloping ground a surface drain by means of a cement or wooden gutter may be used, which should extend out 50 feet from the end of the stanchions. In some sandy sections a cesspool may be put down with the sides and top boarded up and bottom left open. By passing the drainage through a settling box to remove the solid portions and then into the cesspool it settles down into the sand and is thus gotten rid of with the least amount of labor.

Corral.

The most important thing about the corral is to have it properly drained. When the country is perfectly flat this may be accomplished by ploughing the corral and back-furrowing to the center or ploughing only in one direction and throwing the furrow toward the barn. When the cattle have tramped the surface down hard, it is ploughed again the same way and in two or three such ploughings the part of the corral

next the barn or in the middle depending on the method of ploughing will be sufficiently raised to allow water to drain off. This ploughing should be done long enough before the rainy season to give ample time for the cattle to pack the ploughed earth before any heavy rains.

Drinking water should be furnished in the corral from a cement trough. The original cost of a cement trough is but slightly in excess of wood and in the long run it is much more economical. The flow of water should be automatically regulated by a float valve boxed in to keep the cattle from breaking it. The cement trough and float valve will effectually do away with the mud hole so frequently seen around drinking troughs.

Methods.

A dairy may be very elaborately equipped, stocked with fine healthy dairy cows which have passed the tuberculin test and still from lack of knowledge or carelessness in handling milk deliver a very inferior product. The three main essentials in methods to obtain good milk or cream is to milk it clean and keep it clean, to cool it quickly and keep it cold and to deliver it young.

To obtain clean milk the cows must be clean, the milker must be clean and the tinware and separator must be clean. The milk must be gotten out of the stable as soon as milked and into the milk house where it will be protected from flies and stable odors. Therefore every bucket of milk should be taken to the milk house at once and no extra bucket or can should be in the

stanchions. When the milk house is located close to the stanchions there is no time lost in making this a regular procedure. Wet milking is not clean milking and every dairyman should learn to milk with dry hands. After becoming accustomed to dry milking it is just as easy as wet milking and the teats of the dry milked cows are in much better condition throughout the entire winter season. The covered milk pail can not be too highly recommended as by its use from 50 to 75 per cent of the contamination of the milk during milking can be avoided.

Rapid and thorough cooling is also of prime importance and where whole milk is being delivered it should be run over a cooler as soon as it is brought to the milk house. A good milk cooler of the tubular variety costs from \$20.00 to \$25.00, but one lasts a lifetime and many times repays for itself in the better quality of the product. It is of course easier to separate warm than cold milk where the hand separator is used. As soon as separated, however, the cream should be cooled to as low a temperature as possible either by running it over a cooler or placing it in the cement tank of clean water in the milk house and stirring it frequently with a metal stirrer and not with a wooden stick. When cream is delivered once daily, the morning cream should not be

Cut Your Cost of Producing Milk

One of our customers who is using two 20x40 Silos says:

"By siloing my first and last cuttings of Alfalfa, I cut down my mill feed bills over \$4000.00 in one season, and the feeding of the Ensilage with chopped Alfalfa Hay increased the milk production from my 300 cows at least 10%. I consider the Silos saved their original cost the first season."



Ideal Green Feed Silos are a De Laval product, made of the best materials in the best equipped mills on the Pacific Coast, and in every essential feature are built to suit California climatic conditions and to produce good Ensilage.

You would not purchase a leaky can for preserving fruit. Why take chances on a leaky Silo when you can buy a perfect Ideal Green Feed Silo.

Write for latest Circular D for full information.

Ensilage Cutters and Alpha Gasoline Engines

De Laval Dairy Supply Co.

101 Drumm Street,
San Francisco

1016 Western Ave.,
Seattle

Pacific Coast Agents for James Barn Equipment

SHETLAND PONIES HOLSTEIN CATTLE BERKSHIRE HOGS

choice mares.

Cattle in car lots. Government tested and fully guaranteed. Berkshires in any number.

H. T. MORGAN, Glenn Ellyn, III.
Breeder and Live Stock Purchasing Agent.

PACIFIC GUERNSEY HERD

Offers for sale the sire GLENWOOD OF ROSENDALE (14051), a direct descendant of the great Glenwood family, a strain that produced MIRANDA OF MAPLETON (A. R. 914), 927.16 pounds fat, DAIRYMAID OF PINEHURST (A. R. 843), 910.67 pounds fat.

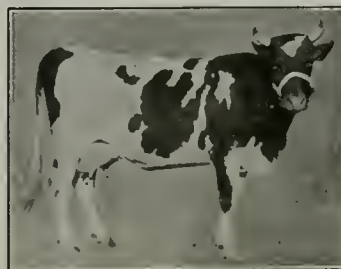
Dam, COUNTESS FANTINE (A. R. 344), 502 pounds fat at 2½ years, 582 pounds fat at 3½ years. Sold for \$875.

GLENWOOD OF ROSENDALE is a fine individual, and is guaranteed in every way.

Also offer four choice bull calves, ranging in age from 2 to 8 months.

If interested, address

C. S. RASMUSSEN, LOLETA, CALIFORNIA



Raymond 8th's Desire of Lewison.

ALTA VISTA HERD
OF REGISTERED

GUERNSEYS

Owned by Chas. G. Lathrop, Stanford University, Cal. A number of mature cows, some of them imported, bred and unbred helpers, and some choice bulls. A number of the helpers are bred to Violet's Pride of Iowa, whose grand-dam has an A. R. record of 912 pounds butter-fat in one year.

Inquiry or inspection invited.

becoming the practice in all the large dairy districts of the state.

In the near future when California dairymen will have to look for an outside market to dispose of their products, those dairy communities that realize the importance of proper equipment and methods in dairying, will be the ones to put out the largest percentage of extra grade of butter of even color and secure the most ready sale for their product at the highest market prices. Dairymen supplying retail milk to small

towns by carrying out these suggestions will in many cases deliver a much better product to their patrons and thus fortify themselves against competition.

ANOTHER BULL CALF WHOSE THREE NEAREST DAMS HAVE MADE OVER 1000 POUNDS OF BUTTER, EACH, IN ONE YEAR.

In the March Journal was published a letter from A. W. Morris & Sons' Corporation, Woodland, Cal., in which

The McCloud River Lumber Co.

McCloud, California

High Class Purebred Holstein Bulls For Sale

Write for Prices and Pedigrees

MILLBRAE DAIRY HOLSTEINS

PROPERTY OF ESTATE OF D. O. MILLS

Although our herd contains over 250 registered animals, bulls are usually sold before they reach breeding age.

We have a few choice bull calves sired by SARCASTIC LEGISLATOR for sale at present.

Correspondence Invited

Visitors Welcome

WE HAVE NO FEMALES FOR SALE

14 Miles From San Francisco on Southern Pacific
or San Mateo Electric Cars Leaving 5th and Market

MILLBRAE DAIRY
MILLBRAE, CALIFORNIA

CHOICE BULLS---

individual quality.

VISIT OUR FARM OR WRITE FOR PRICES AND PEDIGREES

J. H. HARLAN & CO.
WOODLAND, CALIFORNIA

We offer a number of choicely bred registered Holstein-Friesian Bulls, sired by RIVERSIDE PRINCE. These bulls are rugged, well marked, and of high individual quality.

PUBLIC AUCTION SALE

50 Head Pure Bred Holstein-Friesians 50 Cows, Heifers and Bulls

The M. A. MACLEAN Herd will be sold on Thursday, April 9th, at his ranch, six miles Northwest of Modesto and four miles Southwest of Salida, Stanislaus County, California.

The herd consists of

25 REGISTERED HOLSTEIN COWS

14 REGISTERED HOLSTEIN HEIFERS

11 REGISTERED HOLSTEIN BULLS

The milking cows of this herd are making from 12 lbs. (for heifers) to 22.90 butter on seven days' test for mature cows.

I will also sell 15 head O. I. C. Registered Boars and Sows, some sows due to farrow soon.

Four head Draft Horses, 4 Driving Horses, Standard Bred.

One hundred full blood Rhode Island Red Chickens, all farming, fruit and dairying tools, machinery and implements. Mr. Maclean has sold farm, hence this sale.

Autos will meet parties from a distance at Modesto and take them to the sale, Thursday, April 9th.

For further particulars, write

M. A. MACLEAN, Owner or J. H. CORLEY, The Auctioneer
MODESTO, CALIFORNIA

Buy Holsteins

At Lake Mills, Wisconsin

The Black and White Spot of the Middle West

Ninth Semi-Annual Sale

of the

Lake Mills Consignment Sales Co.

Monday, May 11, 1914

Some of the Choicest Blood of the Breed in this Sale

WRITE FOR CATALOGUE

F. H. EVERSON, Mgr., Lake Mills, Wis.

took a great deal of pride in reporting the birth of a bull calf in their herd, whose three nearest dams had average yearly semi-official butter records of over 1000 pounds. They may well be proud to have bred one such bull, but within the past month another young bull has arrived in the herd, and his ancestry is also in the deep purple of three dams whose average semi-official yearly butter production exceeds 1000 pounds. The following letter from the Morris farm gives a clear idea of the quality of blood in the royal youngster:

"A bull calf has recently been dropped in our herd, which we believe is deserving of special mention. His sire is Segis Pontiac De Kol Burke, the coming young son of Riverside Sadie De Kol Burke.

"In Segis Pontiac De Kol Burke is blended, in the closest manner, the blood of the five leading sires of the breed, Pontiac Korndyke, Hengerveld De Kol, De Kol Burke, King Segis, and King of the Pontiacs. These five sires have thirty-seven 30-pound daughters, more than any other eight sires in the world.

"The dam of this calf is Arallia De Kol 3d, daughter of Aralia De Kol, 28,090 pounds milk and 1142 pounds butter. Aralia De Kol 3d is now on test and, as a junior 3-year-old, is making over 3 pounds of butter a day. She gave last year, as a junior 2-year-old, 17,510 pounds milk and 772.96 pounds butter. She is a sister to the world's record 3-year-old, Queen Juliana Dirkje, 1021 pounds butter in a year, and De Kol of Valley Mead 2d, 906 pounds butter at 3½ years. Aralia De Kol 3d is one of eight sisters whose yearly average is 800 pounds.

"The calf's three nearest dams have yearly records that average 24,465 pounds milk and 1000.14 pounds of butter. This average will no doubt be considerably increased when the dam matures. The two grand dams of the calf have each produced over 28,000 pounds of milk in a year, and are the only two cows that have ex-

ceeded 50,000 pounds of milk in two consecutive years. Four of his first seven dams have made world's records.

"In addition to the great production of his ancestors, all are show animals of the highest type, and have shown remarkable transmitting ability. Individually the calf is all that could be desired, and is in every way qualified to meet the requirements of the most exacting breeder."

CALIFORNIA RAILROAD COMMISSION ORDERS SWEEPING REDUCTIONS IN EXPRESS RATES ON DAIRY PRODUCTS

The new express rates of Wells, Fargo & Company which have been fixed by the Railroad Commission, will go into effect March 15, 1914, and while directly affecting every industry and locality in the State, will work a material saving to the dairymen.

In so far as express rates on milk and cream have in some instances been cut in half, the dairy counties of Butte, Fresno, Humboldt, Imperial, Kings, Marin, Merced, Sacramento, San Luis Obispo, Sooma, Solano, Stanislaus, Tulare and Yolo will at once feel the effect of the downward revision. The largest milk and cream shipments are annually forwarded to the marketing centers from these counties. The milk and cream shipments being almost exclusively limited to express companies, the cut in rates directly affects the cost of deliveries to consumers throughout California.

The average cut from 20 shipping points in the Stockton territory is 18 cents per 100 pounds, this running the lowest on shipments between Stockton and Westley, where the old rate of 24 cents was cut to 20 cents, and the highest between Stockton and Tulare, where the old rate of 02 cents is cut to 47 cents. In the first instance, the saving to the shipper is 4 cents and in the latter case, 45 cents per 100 pounds.

In the territory surrounding Fresno,

the average cut has been over 20 cents per 100 pounds. From Fresno to Stockton the revised rate is now 35 cents against a former tariff of 75 cents. This amounts in a direct saving to the dairymen of 40 cents per 100 pounds or 4 cents per gallon. In this territory the saving ranges from 40 cents, quoted, down to 2½ cents per 100 pounds saving on shipments between Reedley and Fresno.

The average saving per 100 pounds in the Los Angeles territory is 40 cents. Here the greatest direct saving to the shipper is 80 cents on shipments to and from Coachella, the old rate of \$1.17 being cut to 37 cents. The smallest cut in this territory is on shipments to and from Santa Ana, where the revised rate is but 3 cents below the old rate of 23 cents.

FLOSSMOOR FARMS

Sell 50 head of the very best Holstein-Friesian cattle in the
CASE & GARVEY SALE
where a total of 200 cattle sell on April 14-15, 1914. J. W. GARVEY, Thayer, Ill. Lang Co.

Abortion in Cows

Can be checked and eradicated from a herd by Hood Farm Abortion Remedy and Hood Farm Breeding Powder. Write for full particulars. Do not experiment, but use Remedies of proved value.

C. I. HOOD CO., Lowell, Mass.

REGISTERED

HOLSTEIN-FRIESIANS

H. B. COWAN

Box 512 MODESTO, CAL.

MOORLAND FARM

HOLSTEIN-FRIESIANS

Offers for sale a splendid six-month-old Bull Calf with good A. R. O. backing.
K. W. ABBOTT, Milpitas, Cal.

REGISTERED

HOLSTEIN-FRIESIANS

Increase the value of your herd by introducing the blood of the greatest producers of the breed. We offer a number of Choice Grandsons of King Segis. Also a number of Grandsons of the world's record cow, Creamelle Vale. Write or call and inspect our herd.
F. & H. STENZEL, SAN LORENZO, CAL.

CREAMCUP HERD

HOLSTEIN-FRIESIAN CATTLE and O. I. C. SWINE

Bull Calves for sale from A. R. O. dams, sired by a grandson of King of the Pontiacs, also by a son of Colantha Johanna Lad.

M. M. HOLDRIDGE,

WOOD COLONY. MODESTO, CAL.

REGISTERED

HOLSTEIN-FRIESIANS

Herd Headed by

Juliana King of Riverside

One of his young bulls, also one sired by Cornelia King and out of high producing dame, for sale.

B. F. ANDERSON,

ROUTE 2, MODESTO, CAL.

REGISTERED

HOLSTEIN FRIESIANS

A Grandson of the GREAT KING OF THE PONTIACS for sale. Nearly ready for service. Price \$150.00.

McALISTER & SON,

CHINO, CALIFORNIA.

Holstein-Friesian Cattle

A Few Choice Registered Bulls and 25 Choice Registered Heifers.

Prices on Application.

CHAS. JAY WELCH, Los Banos, Cal.

Between San Francisco and ninety-six shipping points in both the San Joaquin and Sacramento Valleys, the average cut has been 31 cents per 100 pounds. The most marked reduction in this group of revised rates is that between San Francisco and Hornbrook, the old rate of \$2.00 being cut to 84 cents, thus saving the shipper per 100 pound can, \$1.16. Between San Francisco and Fresno the cut is 53 cents per 100 pounds and between San Francisco and Sacramento the cut is 9 cents.

The average cut on the revised Sacramento rates is 41 cents from fifty-seven shipping points. The cut on the rate between Ager and Sacramento is the heaviest, the old rate of \$1.95 being cut to 70 cents, saving \$1.25 per 100 pounds.

The Quality of Butter.

At the Fort Dodge convention, as at most of the recent meetings of dairymen and buttermakers, the chief burden upon the minds of the delegates was the importance of raising the quality standard of our butter product to a higher level. The probability of a material addition to our butter supply through importations from abroad is of course increasing the necessity for this consummation. And it is, in fact, altogether possible that even though our level of butter values may be lowered through importations, the returns for butter fat to our own producers, as a whole, might be practically maintained if a much larger proportion of our finished product could be marketed in the highest class. It costs no more in the chief expenses of cream production—in the maintenance of the cattle, in the milking, in the separation, the hauling—to produce a high grade cream than a low grade. And if we can eliminate the serious losses that arise from poor quality, from the necessity of selling much of our product at a material reduction from the value of fancy butter, a moderate reduction in the general level of values will be advantageous to the consuming population without, perhaps, lessening the gross returns to our milk producers as a whole.

There has rarely been so wide a range in the value of our creamery butter product as prevailed during last summer and fall. The excessive heat and drought led to an unusually large proportion of defective butter, overstocking the markets and holding prices down for undergrades while the scarcity of fancy butter drew values for such to a comparatively high level. No doubt the effect of importations will be to make permanent a wider difference in values according to quality than has ordinarily prevailed here and it will become more and more vital to the welfare of our dairy industry that our product be more largely salable in the highest class.

The methods of eliminating the unprofitable cows, of caring for the milk and cream so as to accomplish this result and cheapen the cost of production are well known, and the reasons for which reforms have been so slow in coming are doubtless due, more than to any other cause, to the failure to make a proper discrimination in the payments to producers according to the actual difference in value of the goods they have to offer.

A certain amount of education is, of course, essential; and the plan of

When the Price of Butter Fat Starts to Decline

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In our humble opinion this discrimination—necessary to afford justice—is the crux of the whole matter of quality improvement; it is the essential foundation upon which all educational efforts and the offer of advanced and progressive practices must depend for their effectiveness. And the only way to get a thing done is to do it.—New York Produce Review and American Creamery.

A. R. C. WORK CONTINUES TO BRING OUT GOOD ONES IN MORRIS HOLSTEIN HERD

The Live Stock and Dairy Journal—Since last October sixty cows and heifers have been officially tested in the herd, for periods of seven to thirty

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days, and entered in the advanced register. The present test season will close about May 1st, by which time we will have tested about 75 cows in a period of seven months. Expect to have some good averages to report in the different classes at that time.

In the list of tests completed since we last reported to you, the following are the most prominent:

Butter 7 days, 30 days	
Luit Burke, 4 yrs. 1 mo.	32.76 120.56
Natula Fobes 2d, 3 yrs.	
2 mos.	27.87 111.07
Riverside Sadie Burke	27.50 112.86
Electra Ignaro, 4½ yrs.	26.41
Natula Queen Alcartra 2d	25.98
Sadie De Kol Acme	25.22
Contenta 2d	25.18
Diotime Clyde Korndyke,	
3 yrs. 2 mos.	24.27
Lady Mead Salambo,	
3 yrs. 5 mos.	24.25
Leda Hartog Alcartra	23.78
Leda Hengerveld De Kol	
4th	22.85
Silver Gloss Poplar 2d,	
4 yrs. 2 mos.	21.16
Riverside Seely Girl 2d,	
2 yrs. 8 mos.	20.85 84.50
Aaggie Netherland Juliana	
2 years 8 mos.	20.80 80.94
Leda Gerben Alcartra 2d,	
2 years 9 mos.	20.48 83.73
De Kol of Valley Mead 4th	
2 yrs. 4 mos.	18.33
Molly De Kol Mead, 2 yrs.	
4 mos.	18.30

In looking over the list we note that the highest records have been made by cows that have made large yearly records during the previous lactation. Luit Burke's record was made with second calf. She is now milking over 80 pounds daily and we predict that she will be heard from again when at mature age.

The two junior 3-year-old sisters, Natula Fobes 2d and Diotime Clyde Korndyke, each made over 670 pounds of butter last year as junior 2-year-olds. They are half sisters to Lorena Korndyke, grand champion at the last State Fair.

Electa Ignaro was but a few days under 11 years when tested and gave over 20,000 pounds of milk last year. She is a sister to Aralia De Kol and four others that exceeded 20,000 pounds of milk in a year. The records which the 2-year-olds have made are very gratifying to us, being of our own breeding and coming from our most prominent families.

The dam of Leda Gerben Alcartra 2d was a winner at the State Fair in 1912, both in the show ring and in the butter-fat contest. She gave over 600 pounds of fat as a 3-year-old. Aaggie Netherland Juliana is by Juliana King of Riverside. She has eight sisters whose records average 800 pounds of butter, including the world's record 3-year-old.

Molly De Kol Mead and Riverside Girl 2d are sired by a full brother to De Kol of Valley Mead 2d, 906 pounds of butter at 3½ years, further demonstrating the prepotency of the Valley Mead family. The fifteen heifers that have been tested during the present season average 18.05 pounds butter in seven days.

In the 100-day official test, Tilly Alcartra is credited with 9701.8 pounds milk and 396.53 pounds butter. She is now almost five months in milk and averaging 88 pounds daily.

A. W. MORRIS & SONS' CORPORATION,
Woodland, Cal.

WHITE SCOURS

(Written for The Live Stock and Dairy Journal by D. S. Kay, D. V. S.)

The most violent and deadly form of diarrhea in the new-born calf deserves especial mention during this season.

This disease may appear immediately at birth and shows itself almost

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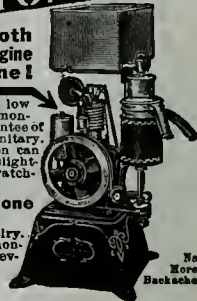
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invariably within the first or second day. The most intense symptoms of white diarrhea are complicated with great prostration, dullness, weakness, sunken eyes, retracted belly, short, hurried breathing, and very low temperature, the calf lying on its side and the head resting on the ground, lethargic or unconscious or regardless of all around it. The bowel discharges are profuse, yellowish white in color, very offensive odor, and cling around the hair of the hind quarters, attracting large numbers of flies which carry the disease to neighboring ranches, and to the other calves in the immediate vicinity.

As a rule death ensues early from exhaustion in some outbreaks while in others there seems to be more tolerance for the disease, and the calves will linger for over a week. When calves escape an attack for a few days where there is an infected farm they usually survive and may not contract the disease, but where they contract the disease the first few days after birth they usually die quickly.

The ones that survive an attack usually develop a lung inflammation a few weeks later and then die. It seems as though the whole system is poisoned. This disease will cling to a stable for years and render it almost impossible to raise a calf, especially where sanitation is ignored and where there is dampness and poor light and ventilation.

The removal of cows to clean parts of the barn when they calve will often check the disease but the shoes of the attendants and even the animals themselves carry the disease all over the barn.

The disease has been traced by various authorities to a germ which has great virulence, killing guinea pigs and rabbits in a few hours after inoculation, with symptoms of a general septic condition with diarrhea.

There seems to be some relation between infectious abortion in cows and white scours in calves. Many cows that have acquired an immun-

ity to infectious abortion, discharge the germ around the place and the calf would naturally become infected from the navel, and by the food, as the disease has been produced both by the feeding of the germ at the mouth and also by navel infection, while the germ of infectious abortion may not be the same as white scours, yet I have scarcely ever seen it fail that wherever infectious abortion was present invariably white scours was prevalent, and often an infectious pneumonia. Though infectious abortion may not be caused by the germ of white scours, yet white scours can be produced by the germ of infectious abortions, as can infectious pneumonia, prevalent in summer months in infectious abortion herds. As preventive measures are by far the best in this disease and the most rational, owing to the quick death of those infected, sanitation is the sheet anchor in its treatment. With a small herd the removal of the dam to a clean part of the ranch is the best method and as this cannot be carried out when the herd is large, all litter should be burned and chloride of lime (a pound to 25 gallons of water), or a two per cent solution of the coal tar disinfectants, should be sprinkled around. No new calves should be put in the pens where the others are sick. The feed troughs should be disinfected before and after use, as the flies that abound about a dairy are the prime factors in transmitting the disease.

The navel of the new born calf should be painted with iodoform colodion after washing in the following solution: Iodine, one-half dram; potassium iodide, one-half dram; rain water, or distilled water, one quart. Or tar from the pine tree is a good after dressing, as it keeps the flies off the navel and keeps the infection out. When the first signs of the disease appear in a new pen, remove the healthy ones and put them in another pen, because if you remove the sick ones you leave the disease to the healthy ones and at the same time infect the new place,

Polytechnic Jersey Breaks California Record

A small but handsome registered Jersey cow in the herd at California Polytechnic School, San Luis Obispo, Cal., has finished a year's test and exceeded by a wide margin the best previous performance of any California cow of the breed.

Marquis Foxy Belle is the name of the little cow making the big record. There seems to be nothing sensational so far as her breeding is concerned, as she is out of an untested dam. However, her sire, Imp. Golden Marquis, was never given a good opportunity to establish his merit as few of his daughters were tested. Marquis Foxy Belle makes the third of her daughters to be entered in the Register of Merit, and her record is away above that of the other two. Imp. Golden Marquis was something of a show bull, and more than likely a better sire from the standpoint of production than he was given credit for.

The dam of Marquis Foxy Belle is the cow Black 188531, that was a successful contender in the California show rings during the years of 1907 and 1908.

Marquis Foxy Belle has always been a heavy producer, and has frequently made between 17 and 18 pounds of fat in 7 days. She is about in her prime now, as she was 5 years and 10 months old when she began her year on March 16, 1913.

She is only a little cow, in spite of her big yield. Normally she weighs about 900 pounds and started in her year at about that weight. She gradually dropped down to about 850 pounds at the height of her production, but started in to pick up flesh as her yield began to lessen, and at the end of her year had regained her normal weight of 900 pounds. She was not forced at any time and appears particularly rugged and strong. She could unquestionably have been forced to a still higher mark had she been given any extraordinary attention. During her test period she was disturbed at the time of the exhibitions at the school last June, and to a greater extent when she was taken out for a two

weeks' trip at the fairs. Many of our readers will remember having seen her at the Fresno Fair, where she was on exhibition with some of the other Polytechnic stock.

Her record, aside from the fact that it heads the California Jersey list, is one of the most interesting we have yet noted. It is the result of weighing and testing every milking during the entire year of her work, and is undoubtedly the most thorough record yet established.

During the 365 days March 16, 1913, to March 15, 1914, Marquis Foxy Belle produced 10878.9 pounds of milk, average test 5.912%, yielding 643.21 pounds of butter fat, equal to 756.71 pounds 85% butter. This is her production by months:

1913	Milk	Fat
March 16 to 31, inc. -----	553.3	29.9803
April -----	1444.	68.7628
May -----	1256.3	65.3675
June -----	993.9	55.3295
July -----	978.2	58.2967
August -----	950.4	56.0298
September -----	857.6	51.8867
November -----	687.1	48.5303
December -----	684.	48.9918
1914		
January -----	661.6	46.4433
February -----	661.9	41.7877
March 1 to 15, inc. -----	373.2	21.9402
	10878.9	643.2109

Average test 5.912.

643.2109 lbs. butter fat.

It will be noted that she finished particularly strong, making around 1½ pounds butter fat per day, after being in milk for one year, and after finishing her test she is still producing around 25 pounds of milk per day.

No accurate record of feed consumed was kept, but in the main her ration consisted of horse bean meal, rolled barley, bran, corn ensilage, and alfalfa and oat hay. During her heaviest milking period she consumed up to 18 pounds per day of a mixture of two parts horse bean meal, one part rolled barley, and one part bran, weight basis. She also had at this time about 30 pounds corn ensilage, and a little alfalfa and oat hay. Later on the grain was reduced and the horse beans largely replaced by alfalfa.

643.21 pounds of butter fat in one year is another new high mark for California Jersey breeders to measure up to.



Marquis Foxy Belle, whose production of 643.21 pounds butter fat in one year from 10,878.9 pounds milk, ranks her as the highest producing Jersey in California. Owned by California Polytechnic School, San Luis Obispo, Cal.



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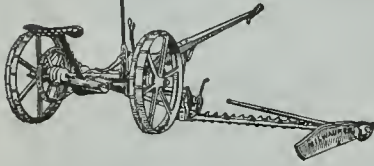
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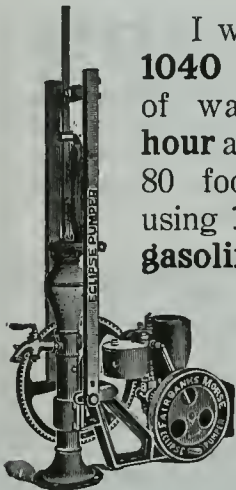
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A Silage Opportunity

Written for The Live Stock and Dairy Journal by John Y. Reaty.

For some reason or other, the popularity of the silo has not gained ground in California as rapidly as in many other states. Of course, corn is not quite so commonly grown here as in the middle west, but corn is not the only crop that can be put into the silo. Some in the alfalfa sections have learned this and have put up silos to fill with alfalfa to carry over the season when green alfalfa is not available from the fields.

Among those who have had splendid success in siloing alfalfa are H. R. Timm and Hutton Brothers of Dixon, and A. W. Foster of Hopland. At Dixon the last cutting is put into concrete silos and the dairy cows are supplied with this succulent food during about four months of the year. There is no decrease in the milk flow when the change is made from green alfalfa to silage.

At Hopland, the weedy parts of the field are put into the silo. Mr. Foster has found that the weedy alfalfa makes as good silage, but it doesn't make quite so good hay.

Near Kenwood, Rathbone Brothers have had splendid success in filling their silo twice each year. First it is filled with corn, then with rye and barley cut green. Even foxtail has been put in large quantities and Mr. Rathbone says that it makes just as good a crop as anything else. Of course he doesn't plant fox tail for silage, but when there is a patch of it in the field, it goes into the silo just the same as the rest for it keeps up the milk flow as good as corn.

So far as I know, sugar beet tops have not been put into silos in California, but they have been successfully siloed in Wisconsin. California produces \$45,191 tons of sugar beets per year, and up to now, the tops have been allowed to rot in the field. If they are mixed half and half with corn fodder, silage will be produced that is just as valuable as green corn silage. This has been proven by the experience of G. C. Humphrey of Wisconsin.

They grow a lot of sugar beets in Wisconsin, too, and Mr. Humphrey believed that the tops might be utilized for feed. Accordingly he put a quantity of them into one of his silos and the usual corn into the other. When the change was made from corn silage to beet top and fodder silage, there was no variation in the milk production of the herd. The cows ate the new silage with just as much relish, and produced just as much milk when fed upon it.

Mr. Humphrey then took samples of his corn silage and of his best top-fodder silage to the chemical laboratory and had them analyzed. The chemist determined the constituents and reported that there was just about the same amount of nutriment in the one as in the other.

Surely this is a valuable discovery for all who keep cows and live in beet growing sections. If you don't happen to have beets of your own, you can no doubt bargain for the crop of a neighbor at a very low price. The tops are of no use to him, and if you haul them away, you ought to get them for no more than a dollar a ton.

It usually costs from \$2 to \$3 per ton to raise silage corn in California, so you see there will be a great saving, and besides, you won't have to raise the crop.

When the silage was put into the silo, a load of beet tops was drawn up one side of the cutter, and a load of fodder onto the other. A bundle of fodder was thrown upon the feeding table, and opened. Beet tops in about an equal quantity were then piled on and the whole run through the cutter. In this way, the two crops were well mixed and the beet tops ran through the cutter much more easily. It is rather difficult to get the beet tops to run through readily when fed into the machine alone.

I don't know just how to emphasize the value of silage unless I give the experience of two or three dairymen with whom I am familiar.

Henry Barnes near Santa Rosa tells me that he saves at least \$2.50 a day by using silage for 16 cows. With the silage he feeds no mill feed, and that is where the saving comes in. It would cost \$2.50 a day to buy mill feed for the herd if he had no silage. In addition to this, and even more important is the increase in the milk flow due to the silage. As an example of the effect of silage in his herd I would mention the following incident.

His cows were running on excellent pasture, and he had started the feeding of silage. The cows, however, were getting so much green stuff in the pasture, that they did not eat as much silage as usual. His silo is rather small for the herd, so he decided to save the silage until it was more needed after the pasture was gone.

In spite of the fact that the cows were not eating a full ration of silage, and were getting all the finest pasture they wanted, the milk production fell off the very next day after the silage was stopped, two large pails.

I have just received a letter from a dairyman in Colorado. His name is Lowell and he manages the O. V. Ranch. He has two large silos and he told me in his letter that the silage has increased the milk flow of his herd fully one-third. That means that if you are getting 30 gallons without feeding silage, you will get 40 gallons from the same cows if they are fed silage.

A dairyman near Penn Grove has taken down a part of his silo and converted it into a milk house. He says that he doesn't believe in silage because it smells bad. He says that he doesn't believe in feeding stock anything that has a strong odor. Yet on that same farm is a large dirty tank that holds the skim milk and butter milk for the hogs. If you can find me a more disagreeable odor than arose from that tank, I don't want to smell it.

The two silos I mentioned at Dixon are used with herds that produce Certified Milk. Surely the medical milk commission that inspects these dairies would not allow them to use silos if there were any bad effects whatever from its use. As a matter of fact, silage does not injure the composition of the milk in the least, and when it is properly handled, it does not give an odor to the milk.

The only way silage gives an odor to the milk is when the milk is allowed to stand in an open receptacle for some time near a quantity of quickly under such conditions. But the man who is trying to produce a first class milk must not allow it to stand in the barn for a minute after it is drawn. Then there will be no danger of the milk taking up the silage odor.

TREATMENT FOR STOCK POISONING RECOMMENDED BY DEPARTMENT OF AGRICULTURE

Practical demonstrations in the treatment of cattle for larkspur poisoning will be made by Forest officers on 10 or 12 different National Forests in the Rocky Mountain district this summer. The officers will be furnished with a standard equipment of syringes and medicines, and subcutaneous injections of Physostigmin salicylate, 1 grain; Pilocarpin hydrochlorid, 2 grains; Strychnin sulphate, 1/2 grain, will be used on animals weighing 500 to 600 lbs., doubling the dose for large steers and cows weighing 1,000 lbs. or more.

Experiments with this treatment, which is discussed in a recent "Farmers' Bulletin" No. 531 of the U. S. Department of Agriculture, have shown about 96% of success and it is expected that stockmen will readily adopt the method as its merits become more generally known.

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7	7:10a	8:45a	9:00a
13	9:10a	10:30a	11:00a
17	10:16a	11:46a	12:06p
23	12:15p	1:50p	2:06p
29	2:10p	3:45p	4:00p
35	4:10p	5:50p	6:06p
41	6:20p	7:53p	8:10p
47	9:00p	10:34p	10:55p

NORTHBOUND.

No.	Leave Stockton	Leave Lodi	Arrive Sac'mto
4	6:00a	6:00a	7:55a
10	7:45a	8:00a	9:35a
16	10:00a	10:05a	11:45a
22	12:05p	12:20p	1:55p
28	1:46p	2:05p	3:35p
34	3:45p	4:05p	5:35p
40	5:46p	6:05p	7:35p
46	8:30p	8:40p	10:20p

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A. M.—6:16, 6:05, 7:00, 8:00, 9:00, 10:05, 11:05.
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*Daily except Sunday.

Trains Leave Lodi.

A. M.—12:05, *6:05, 7:00, 8:00, 9:00, 10:05, 11:05.
P. M.—12:30, 1:00, 2:05, 3:00, 4:05, 5:00, 6:05, 7:00, 8:40, 9:10, 10:37.
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VETERINARY

Conducted by D. S. KAY, D. V. S.

Questions relating to the health of farm animals will be answered in this column free of charge. Where an immediate reply by mail is desired, a fee of \$1.00 should accompany the questions. Address all communications to Veterinary Department, The Live Stock and Dairy Journal, Sacramento, Cal.

The Live Stock and Dairy Journal:

I have a calf that seems to have white diarrhea and nothing that I have done seems to relieve it for more than one day. The calf's mother has a bad udder and cracked open teats, and her breath smells very badly. I give her oil and saltpetre. The calf has not had any of its mother's milk for over two weeks. I have fed it boiled milk with lime water, and gave it one dose of castor oil with magnesia.

We have another fine milch cow that seems as though she has been foundered. She gets so lame at times her front feet and legs seem useless. What is good for her feet?

M. E. F., Mono County, Cal.

(1) The calf is suffering from scours due to the infection from the cow's teats. As no other calf is sick I would think that it is not the infectious disease called white scours. Also from the fact that the cow has a bad udder. If the calf has been fed from a cow with a great deal of butter fat in the milk, then diarrhea will be the result. Your treatment seems very good, but barley water could be substituted for the milk, with better results, and Sodium Hyposulphite in 2 dram doses would assist. Give the medicine four times daily in barley water till cured.

(2) Examine the feet for foreign objects and blister the feet above the junction of the hoof and hair for a distance of an inch all around, by rubbing in cerate of Cantharides and on the second day grease well with lard or vaseline. This treatment may be used every three weeks until cured. The condition may come from the central nervous system and due to some nervous disorder. Then fluid extract of black snake root in two teaspoonful doses three times daily would be indicated.

The Live Stock and Dairy Journal:

Can you tell me what is the matter with one of my bay mares? She won't stand down on right hind foot unless only on top of foot. She walks very lame. First went lame right after being shod and was getting along nicely (after two or three months) when I let a young man drive my team one day when I was too busy to go myself, and I think he drove a little hard as he was home earlier than usual. Since then the mare has been getting worse and worse. She will hold her leg up one or two minutes at a time, sometimes so high that it almost touches her belly. One blacksmith shod her with a high calk shoe, but it did no good. I have blistered her with caustic balsam and still no improvement.

When in barn the mare lies down on the sore leg, and it is very hard for her to get up again, in fact I have to help her. She seems to be worse when in barn or standing still in corral. When working is not so bad, after once getting started. I drive her a mile to buggy every day. She seems willing to work and makes a great fuss when the other horses go out of the yard before her. She is supposed to be about ten years old.

A. M., Mendocino, County, Cal.

The mare seems to have a great deal of pain with the condition described, and there may be a bony growth underneath the back tendons (flexors). If so then a graduate veterinarian should pin fire the growth and prescribe a shoe that would raise the heel and relieve the strain on the tendons, and should see that the toe is shortened to cause her to break over quick and not raise the leg so high. Regarding the cords having shrunk, this is not the case as the muscles shrink from disuse and the cords appear to shrink and all energy used in rubbing the cords is useless. If the mare is valuable have her operated on, if not destroy her as she is in misery. If there is no bony growth, fine firing is indicated and the proper shoeing to follow. If this treatment with rest does not result in a cure, then the leg should have a surgical operation which your nearest veterinarian will perform.

The Live Stock and Dairy Journal:

I have a mare that is due to foal April 2nd. She is a mare that always drops a large colt, but she gives very little milk and the colt becomes scrawny in a short while. Will you please tell me what is best to give her to make her produce milk.

M. C. C., Monterey County.

The mare should have plenty soft nutritious feed, such as bran, shorts, a little oil meal with her grain. Jaberandi fluid extract in teaspoonful doses will aid in the milk supply, brewers grain is very good, and the massaging of the udder with pure castor oil will often help.

Don't allow the colt to become scrawny as you can let him drink some cows milk and add some shorts or bran to it. At an early age he can be taught to eat a little oats. Keep the colt growing his first year and you will have something to work or sell.

The Live Stock and Dairy Journal:

(1) Would you advise putting a cow, that is about to freshen within a month, in a dry lot where feed is short, or in a lot where feed is fairly good? She is a persistent milker and we find it very hard to dry her up. When a cow of this type starts to spring, the milk flow does not increase does it? Is it better to milk her out every other day than to milk her partly out every other day?

I have been milking the two front teats in the evening of one day, and the two hind teats the following evening.

F. M. B., Kings County, Cal.

(1) Providing your cow is plethoric, put her in poor pasture before calving for about three weeks. This will reduce fat and bulk in the abdominal cavity, and allow the functions of parturition to take place properly.

If she is not in fairly good condition, give her good pasture until within a few days of freshening time, then cut her feed in and you will have little trouble.

(2) Depending upon her udder. If she has a fleshy udder, milk her out a little every day. If she has a thin, lean udder, milk her out every other day. Cut down on feed and use epsom salts freely, a pound of the salts in solution will reduce the body fluids and divert the blood supply from your cow's udder to the in-

testines and at the same time will cool the blood.

I am a firm believer in a physic for a heavy milker, at least twice before freshening, at intervals of a week. That is of course when the cow is a very heavy milker. It will always prevent congestion of the udder, and the room given to the calf gives the cow a better chance to deliver the calf by emptying the large stomach or rumen and allowing the act to take place more naturally.

GARGET

(Infectious Mastitis).

Written for The Live Stock and Dairy Journal by D. S. Kay, D. V. S.

The cause of Infectious mastitis, mammitis, or garget lies in the invasion of the udder ducts by a minute vegetable organism or bacteria. The irritation produced consists of inflammation, redness, heat, pain, and swelling, hardening and breaking down of the inside of the udder comes as the disease progresses.

The germ gains the milk ducts of the teats and thus travels inwards, the disease developing in from one to three days from the time of the exposure to infection.

Symptoms.

The first symptom is diminution in the flow of milk, usually in one quarter of the udder. This is quickly followed by indurated parts in the affected glands. The part is inflamed, the milk becomes thin and later clumpy, and later blood or pus may be present.

The disease may spread to other parts of the udder quickly or slowly. The rapidity of the spread of the disease depends upon the virulence of the germ and the amount of resistance of the parts affected, or in other words the constitution of the animal affected. The cow becomes fevered, nose becomes dry, constipation is more or less marked, appetite dulled, thirst increased, rapid loss of flesh, and death often takes place when the disease runs a rapid course. In the chronic form these symptoms will gradually subside and one or two quarters dry up, due to degenerative changes in the cells that secrete milk.

Prevention.

The disease is spread from cow to cow by the milkers' hands, therefore infected cows should be milked last, and infected quarters last, not on the barn floor but in an old milk bucket which is not used for clean milk. Isolate all infected cows. This is one of the easiest diseases to control. If using a milking machine, milk by hand all affected cows.

I found in two dairies that the cows walking through filthy pools were infected there, and on proper drainage of these pools, the disease was stamped out. The habit of leaving the envelopes hanging for days after calving is a common cause of garget, as well as a cause of sterility. These should be carefully removed on the third day, and the hind quarters disinfected by liberal washings with medicated hot water.

Treatment.

Isolation from the herd, a saline purge such as a cupful of Glauber salts, and reduction of feed to one fourth. If the cow is a very plethoric animal, a liberal bleeding is in order. Inunct the udder with a 10% Guaiacol ointment twice daily. Give Belladonna tincture, a tablespoonful every three hours. Hot applications and poultices to relieve pain and congestion, hop poultices being best. Olive oil and lard will keep the parts soft.

The best treatment consists of the use of a vaccine made from the dis-

charge of the udder. I have treated cases of long standing with this vaccine with remarkable results. One dairy had 15 head in the chronic form due to improper use of a milking machine, all of which responded readily to the treatment. It must be borne in mind that one quarter will nearly always dry up, but this is nothing compared to the loss of a valuable cow.

Remarks.

The cow's udder is its most delicate organ, as it is its most highly developed organ. The individual cases of garget should be treated according to the stage of the disease. Observe cleanliness, keep the quarter milked out, keep bowels regular, and do not use a milk tube. Make soothing applications in acute conditions, and remove the cause if found. If a hard lump appears on the udder the cow should be given the tuberculin test by a graduate Veterinarian to detect whether or not tuberculosis is present.

Milk from infected cows should not be mixed with good milk, as it will produce serious and fatal disease especially in children.

Treatment should be started early, as when the disease runs over five days the infected quarter is lost as a rule. This I have found in an extensive dairy practice in California.

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Pacific Northwest Should Produce Its Own Pork

Well-managed Pastures With Proper Grain Rations Should Make Hog Raising An Important Industry West of the Rocky Mountains and Reduce the Great Quantity of Hog Products Shipped Annually From the East.

The average price of pork in the Pacific Northwest has been high because of the fact that it has been necessary to ship a large percentage of hogs from east of the Rocky Mountains. By providing pasture for hogs in most of this region and utilizing the ability of the hog to harvest grain crops for himself the cost of producing pork in the Northwest should be so materially reduced as to make the hog industry profitable there. These considerations are dealt with in a new bulletin of the U. S. Department of Agriculture entitled: "Pasture and Grain Crops for Hogs in the Pacific Northwest."

Scattered here and there throughout the Northwest are men who are successfully producing pork, and their methods, crops and feeding systems have been studied by the investigators who have compiled the Department's new bulletin. Owing to the rapid increase of population in this section, the demand for pork has increased faster than the supply. Although there have been some outbreaks of hog cholera, this area has been remarkably free from this disease, doubtless because of the scarcity of hogs. The larger cities have well-equipped packing houses, and modern union stockyards are in operation at Portland, Oregon. Notwithstanding this, enormous quantities of eastern pork, bacon and lard are annually consumed by Pacific Coast states.

Clean, Tender and Palatable Forage Required.

The pasture should be so managed that the forage will be clean, tender and palatable, if pork production, which depends so largely upon the consumption of cheaply

grown food, is to be economical. Hog pastures are generally managed in one of three ways:

(1) Continuous close grazing.

(2) Alternate pasturing of equal areas.

(3) Pasturing the meadow. The first method which keeps the hogs in the field during the entire season too often results in the pasture being over-grazed. The pasture becomes little better than a dry lot and the hogs make unsatisfactory gains. When the feed in the pasture becomes scarce, either the number of hogs per acre should be reduced or other forage provided.

The second method is more satisfactory. A pasture is divided into two or more fields of equal area which are used alternately, the hogs remaining in each about a week or ten days.

In the case of clover and alfalfa the growth is allowed to become 3 to 4 inches high before the hogs are turned in to eat it off quickly. When the pasture consists of such crops as rape, kale, and vetch, which will not stand close grazing, the growth is permitted to reach a height of 8 to 10 inches before the hogs are turned in.

Changing the hogs from field to field gives the pasture a period of rest, during which the plants recuperate and grow rapidly. When the stock is returned to the field the forage is clean, tender, and palatable and large quantities are consumed. Owing to the rapid growth made while at rest, a pasture that is subdivided and the areas grazed alternately is capable of carrying a much larger number of hogs per acre, other conditions being equal, than is continuously pastured.

Hogs usually graze a pasture

somewhat unevenly, some areas being eaten off much more closely than others. To keep down the weeds and make the growth come on evenly, the pasture is clipped with a mower immediately after the hogs are removed. Hogs are inclined to root when the surface of the ground is wet or damp. For this reason the pasture, if under irrigation, is irrigated just after the hogs are changed from one pasture lot to the next. This gives the surface of the ground time to dry before the forage is large enough to be grazed.

The third method also has certain advantages. Many successful hog raisers prefer to use such crops as clover and alfalfa for both pasture and hay at the same time. The number of hogs turned into the field is so limited that the usual crops of hay are made. The chief advantages of this method are (1) the presence of an abundance of feed, (2) the meadow is not grazed closely enough for the stand to be injured, (3) it is not necessary to subdivide the pasture into smaller acres for alternate pasturing, and (4) the changing of the hogs from one inclosure to another is obviated.

When the number of animals pastured is so limited that the usual hay crops are made, the growth becomes so coarse and woody that they do not consume as much forage as is desirable for economical gains, as the hogs relish the young shoots best. When the forage becomes too large to furnish desirable feed, an area near the watering place is clipped with a mower. This should be large enough to furnish the desired amount of pasture. In a few days the clipped area produces a vigorous growth of new shoots, upon which the hogs feed without materially disturbing the rest of the meadow. If the area first mowed is not sufficient to furnish the required feed, more of the meadow is clipped, as necessity may demand. To prevent the stand of these clipped areas from becoming injured by overgrazing, different portions of the meadow are used in this way from year to year.

Grain Ration While Hogs Are on Pasture.

While the cost of producing pork may be reduced materially by the use of such roughage as alfalfa hay, roots, or green-pasture forage, it is desirable to feed grain or other concentrated feed in addition. Mature, dry brood sows are sometimes maintained in an apparently satisfactory condition on good pasture alone. Young growing hogs, on the other hand, usually become ungainly in shape, big bellied, and thin in flesh or stunted when compelled to subsist on pasture alone.

How growers differ quite widely regarding the quantity of grain that should be fed while on pasture. Some feed a full grain ration, i. e., all the grain the hog will consume. Others feed a medium ration, one that is equal to about 2 or 3 per cent of the live weight of the hog. Still others prefer a light grain ration, one that is equal to only about 1 per cent of the live weight of the hog. Occasionally men are found who run young sows on pasture without other feed. This is a mistake, for it almost invariably results in a stunted hog. No fixed and fast rule can be laid down, for the supplemental grain ration which should be fed in conjunction with green pasture depends upon a number of factors, the more important of which are (1) the age at which the hogs are to be marketed, (2) the price of grain, and (3) the plentifulness and quality of the pasture.

The new bulletin describes in de-

Poland Chinas Iowa Wonder, son of A. Wonder, heads herd. His daughters are bred to a stylish son of Banker's Model. These Pigs sell quickly, and it would be well to place orders for Spring Pigs now. N. HAUCK, Alton, Humboldt Co., Calif.

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SAN FRANCISCO, CALIF.

tail how the rations for hogs of different conditions and market ages are to be varied.

In regard to the quality and abundance of pasture, the scientists in their investigations observed that the men who were enthusiastic pork producers fed a liberal supplemental grain ration to growing hogs when on pasture while those who thought there was little profit in raising hogs ran them very largely on pasture without other feed during the grazing season.

In most localities in the Pacific Northwest it is possible to provide crops that may be hogged off during several months of the busy season. The crops generally used for this purpose are wheat, field peas, corn and barley. The bulletin gives information in considerable detail regarding suitable pasture crops for the different sections of Washington and Oregon. It also contains a number of illustrations. An easily and cheaply constructed rack for feeding hay to hogs is shown.

Farmers interested in developing the hog industry in the Pacific Northwest are advised to write for this bulletin (No. 68), which can be had free on application to the U. S. Department of Agriculture, Washington, D. C.

A CHOICE LOT OF BERKSHIRES

Never in the history of California agriculture has there been so great a demand for breeding stock as there is this spring, and the demand is for purebreds. Buyers of sires now almost always specify that the stock must be registered, and as a result practically every breeder in the state is sold down close.

In many instances there is not enough stock available to meet the demand, and this is particularly true of registered swine. The Journal is in close touch with practically every registered herd of any size in the state, and yet we have been unable to direct a number of buyers who have visited our office, to herds where their wants could be filled. Berkshire hogs have been particularly in demand and none of the prominent breeders have been able to fill all their orders.

G. A. Murphy, the well known Berkshire breeder at Perkins, Cal., partially solved the problem by buying quantities of breeding stock from the best herds in the east. The first lot of about forty head was sold out almost as soon as it arrived, and he now has on hand a limited number of boars near service age, a few bred gilts, and a number of sow pigs, but these are moving so rapidly that it is doubtful if they will suffice to fill orders until a larger shipment from the east arrives.

In times past it has been charged to the eastern breeder of Berkshires that he has underestimated the quality demanded by Coast breeders and the selections which have been shipped out here have on the average been rather below the standard, except in the cases where the Coast breeder went east and made his own selections. This tendency has shown a disposition to disappear lately, and as a result many really good Berkshires have come westward during the past few months.

The last lot brought out by Mr. Murphy, is of the highest average quality that we have yet seen. There are a number of boars and sows in the lot that will cause some commotion in the show ring if fitted this year. Some of the best are sired by Rival's Crusader, and there are also some good ones by Lord Duke, and one or two by Kennett Lee Jr.

PREPARING SEED CORN FOR PLANTING.

Requests are now reaching the department for information in regard to preparing seed corn for planting. The most vital part of seed corn selection work can be performed only at corn ripening time in the fall. Of thousands of different lots of seed corn planted by the Office of Corn Investigations not one lot of seed that matured properly and was gathered as soon as mature and promptly dried has been found poor of germination.

Every corn grower should now spend a day or more getting his seed corn entirely ready for planting. The present work consists of discarding undesirable ears, germination testing, nubbing, classifying the ears, shelling, and testing the accuracy of drop of the corn planter.

Discarding Undesirable Ears

The quality and productiveness of the seed supply can now be improved by discarding the poorer ears and the poorer kernels.

The seed corn should now be "as dry as a bone," and among the ears that appeared desirable last fall some undesirable ones will now be found. Discard any that have discolored kernels or cob or that have a dead appearance. Discard any that are light in weight and any with undesirable kernels, such as small size, very sharp beaks, germs of poor development and appearance, etc.

All the ears retained should show good development and maturity; be heavy for their size, and contain solid, vigorous-looking kernels of fairly uniform size and shape. These desirable ears should now be tested to determine whether all the kernels will grow.

Germination Testing

Although good seed selection and preservation usually make a separate testing of the germination of each ear unnecessary, it is advisable to exercise precaution by demonstrating that the ears will germinate well. Ten kernels from each of 50 ears can be tested by one of the various methods that have been so well described in literature. This demonstration that 50 representative ears germinate satisfactorily is sufficient evidence of the uselessness of testing each ear of the entire supply. If ears of poor germination should be found, it will be advisable to test each ear of the entire supply in order to be able to discard those in poor germination.

Nubbing

Discard the small, partially developed kernels from the tip of the ears. Why? Because such kernels do not yield well. Careful field experiments have demonstrated that they grow into small, barren, and poor producing stalks.

Discard the round, thick kernels from the butts of the ears. Why? Because the corn planter can not drop evenly if they are included with the other kernels.

Kernels that have been injured by mice or weevils, or that are otherwise undesirable, should also be discarded before the ears are shelled.

Classifying the Ears

As it is highly advisable that the corn planter should drop an equal number of kernels in each hill, which it can not do unless the kernels are of uniform size and shape, it is advisable to classify the ears before shelling them. Those having large kernels should be included in one class and those having medium-size kernels in another class. Each class should be shelled and bagged separately. To these bags, the planter plates that testing has shown will drop regularly the proper number of

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My herd of Berkshires has been especially developed for this purpose for general profit in hog raising. Have both boars and sows of remarkable breeding for sale.

J. L. GISH, Laws, California

kernels, should be tied for convenience at planting time.

Shelled seed corn can be cleaned and graded by expensive, properly adjusted graders, but the method just described of classifying the ears before shelling is more satisfactory.

How to Shell Seed Corn

Seed corn should be shelled by hand. Careful hand shelling pays the man who plants but a few acres,

and it pays to a greater degree the man who plants hundreds of acres. Each ear should be shelled separately into a hand sieve. This permits the chaff from the cob to fall through and the kernels from each ear to be closely inspected before being dumped into the general supply. The value of this close inspection is lost if the ears are run through a corn sheller, and some of the kernels cracked or broken.

HANNA BRINGS OUT SOME GOOD POLAND CHINAS.

The Live Stock and Dairy Journal:

The big gelts I told you about came through from Iowa in good shape and each farrowed seven dandy pigs. Two of the boar pigs from the larger of these gelts are already spoken for as soon as weaned. The larger and older of these was bred by J. O. James of Braddyville, Iowa (formerly president of Standard Ass'n.), and her breeding is as follows: Sire Ott's Big Orange (63-128) and dam Lady Equal (161015). Her litter is by Iowa King (69120) a \$400.00 boar weighing up toward 1000 lbs. This gilt is a big one weighing near 475 lbs. at 17 months of age.

The other gilt is from the herd of August Maurer of Lester, Iowa, and is just past a year old. She will weigh around 420 lbs. and is large and smooth. She was sired by Long Hadley (205511) and her dam was Miss Long Wonder 3RD (495698). She has a litter by Big Bone (211-025).

Both these sows have quality pigs at their sides and I am proud to own the bunch. Wish you could see them. Demand has been so good that I have sold everything I can spare except these little fellows that are too young to wean.

CHAS. R. HANNA.
Riverside, Cal.

SOIL ROBBING VS.

SOIL BUILDING.

By William Galloway.

The average American farmer has often been accused of robbing his soil by the methods he uses to farm it. This accusation being made by soil culturists who know what good farming is, should long ago have been heeded. We have been called robbers for the simple reason that we have been taking from the soil more than we have returned to it. Possibly this has been true because we did not really know what to return to the land to keep up its fertility. But it is doubtful if any man really thought about his farming operations and overlooked the fact that what he was feeding to the soil was out of proportion to what he was trying to take from it.

Soil farming is common sense farming. It is taking off crops and restoring used plant food-soil fertility. Taking off crops and returning chemical fertilizers is not soil farming, though at times chemicals must be restored so that the land be put quickly into shape to grow crops that will enrich itself. When a cover crop of cow peas or soy beans or vetch is turned under for the green manure it feeds to the soil, the process is nothing but simply chemistry applied to farming. You put the green manure under the ground so the land will get the nitrogen, humus (which is rotted vegetation that makes a soil black) and other organic matter as well as the phosphorus contained in the cover crop.

Deep plowing brings to the surface plant foods that shallow rooted plants cannot reach. That is the why of a good crop following deep plowing. The roots of the growing crop feed upon nitrogen, phosphorus, potash and other plant foods that deep plowing brings up where the crop can feed upon them. Legumes are nearly all tap rooted plants that burrow their way down into the soil and feed upon these plant foods, bringing them nearer the surface and making them avail-

able for the grain or other crops which follow. The ability of properly inoculated legumes to store nitrogen in their roots also stores in the soil this first element of all plant food; and in addition to storing nitrogen for crops that may follow them, legumes may be used for money crops, stock feeding crops and other purposes and will not deplete the land upon which they are grown.

A part of the small roots of all legume plants die off annually and form humus, which makes the soil more porous and consequently adds to its physical conditions. Commercial fertilizers must be used annually because the crops on which they are used and their constant leeching away, demands it. Fertilizers are too expensive for permanent farming in the first place, and they do not improve the soil's physical condition. Dig into any virgin soil and you will find it full of humus and plant food. With a little working this soil will become loose and in perfect physical condition to produce most any crop. Ask any greenhouse man why he is so particular about the soil on his benches. Ask him what he does to make a good rich soil. He will tell you that humus, nitrogen, and phosphorus are all essential to perfect plant growth. Soils that are porous, black and full of humus, are filled with plant food and the roots of whatever crop is sown on them can feed easily through the soil. The French farmer removes the top soil of his small acreage and takes it with him when he moves into new ground. He puts in a great deal of time in getting it in the right state of fertility and he would rather move it than build up another soil.

Any soil can be improved. In fact it can be made to improve itself. Sow a thin soil to vetch, cowpeas, clover or alfalfa and they will grow in fertility while you take off a yearly crop of seed or grain, which can be used as meal for live stock feeding. Many farmers have found that sowing legume in corn, cotton or small grain, and then turning this legume under when the seed bed is prepared for the following year's crop adds greatly to the soil's condition and supplies large amounts of available plant food. Thousands of farms have been saved with a three-year rotation of clover, clover following a crop of corn or oats, being seeded with the oats and yielding two cuttings then being turned under for the next year's crop.

In soils where clover inoculation is abundant, clover has been used to wonderful advantage because of its ability to take nitrogen from the air and store it in its roots. All legumes if properly inoculated, will take nitrogen from the air and store it in the little wart-like bunches in their roots. The soil contains air and wherever air is found it contains nitrogen, the elemental plant food. If your soil is hard and your seed bed in which you sow legumes or any other crop is not properly pulverized, it will take longer for a legume crop to build up your soil. It is easily possible by the proper use of a few simple crops to bring back any soil into a state of fertility that is indeed an improvement on its virgin conditions. It is the purpose of these series of articles to point out the how and why of these facts. Any questions that the readers may want to ask me, I will be pleased to answer for I want to make these articles as plain as possible and of benefit to all.

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THE HORSE

The Place of the Brood Mare on the Farm

Under this heading, E. A. Trowbridge, Professor of Animal Industry at Missouri College of Agriculture, writes valuable facts in The American Breeder. While the advice given is directed toward the farmers of the corn belt, yet the principles apply equally well to Pacific Coast conditions, and as the Journal has consistently advocated closer attention to the quality of mares upon our farms, the following is pertinent:

"As conditions exist today, our horses are practically all bred on the farms of the United States. And from them we are able to select a few real high class horses. We are told that of all the horses that go on the Chicago market, somewhere under ten per cent of them weigh 1600 pounds or better. Probably, we might say that ten per cent or less of the light horses that go on the various city markets are really high class horses. It would seem to a casual observer that we ought to be able to produce a larger per cent of high class horses than this. The fault lies not only with the mares, but with stallions, also; but it is the mares with which this article particularly deals.

There are on the farms of the United States 20,567,000 horses. There are in the cities 3,182,729 horses. There are on the farms and in the cities together a total of 4,656,372 mules, making a total of 28,406,168 horses and mules in the United States. Of these, 12 to 14 per cent of the horses are in the cities, which eliminates them as breeders. Practically 8,000,000 of these animals are horses, which are incapacitated for breeding or else are mules. This is over 30 per cent of the entire horse and mule population. Of the 20,000,000 horses that are on the farms of the United States, it will be remembered that there are a great many geldings and mares past breeding age. It is difficult to estimate accurately the number of mares which are available for breeding purposes, but it has been estimated as somewhere around 5,000,000. Of these, it seems conservative to say that not over two-thirds of these produce foals, either for the reason of not having been bred or else by reason of having failed to settle, leaving us between three and four million mares to produce foals, or somewhere around one-eighth or one-ninth of the total number of horses and mules, which are

actually producing foals. With the present demand and the rapidity with which horses are used up and worn out in the cities and on our farms, it seems logical to say that we are in no great danger of an over production.

"The price which we receive for our horses is regulated by the supply and demand. If over-production does occur to reduce the price, that reduction will first be seen in the horses of mediocre quality, or horses which do not fit any given class, and with which the market is overcrowded.

As a ground for horse breeding, there is no place in America that can compete with the average farm in the United States and particularly is this true of the corn belt. Our work is such that mares can be used to perform it. There are seasons of the year when it is necessary to work brood mares harder than it seems they should be used, yet by properly planning the work, it can be so arranged and the birth of the foal can be so regulated as to have them come at a time when the work is not particularly heavy. It is certainly not a fact that brood mares can do all the work on every farm, but it is a fact that on the average farm where diversified agriculture is practiced that brood mares and their growing colts can do a greater part of the work. It is undoubtedly advisable on farms where grain production is made a specialty to have a few pairs of mules or mature geldings that can be put through a hard summer's work without seriously hurting them. They can, unquestionably, do more work with less feed and trouble to the owners than can the brood mares, but they will yield no profit except their labor. In this modern day of specialization, it is then quite logical to see some farms which do not raise foals, but the farmer who practices more or less diversified agriculture can produce horses and mules and good ones if we will give the matter attention.

"The production of horses has not been developed in the same manner as the production of cattle and hogs. In the latter classes of animals, comparatively large numbers of females have been kept in droves or herds and kept together until they are ready to market. It has been more convenient to handle them in large bands than in small numbers. The mule can always be fed to a greater advantage in larger numbers than in small numbers and such is the general practice of mule feeders. However, the actual production of female mules rests upon much the same basis as does that of horse foals, because they are produced from mares. The greater part of our horses in the past have been produced in numbers from one to half a dozen per year on many farms rather than in numbers of twenty to one hundred on a comparatively few farms. This condition of production has resulted because it was a little safer scheme. The horse business requires large capital. Mares are not as certain breeders as cattle and brood sows. It costs more to maintain the mare that does not produce than it does a cow or a sow. Consequently, if she loses a season and is not at work, the operation results in a total loss of a year's time, together with the interest on the

money invested in her. Owing to these facts, the average farmer has owned from one to half a dozen brood mares; has mated them and produced a few foals each year. It is logical that this should have been the case, because under these conditions, when the mare did not produce a foal, she could take the place of a gelding or mule on the farm and be given the brunt of the work, whereas if she produced a foal the next year she can be given a lighter place and some other animal which failed to produce could be used for the heavier work. Men have figured that by so doing they were not losing anything on the mare that did not produce and that they were making a decided profit on the mare that did produce.

"It costs more money to handle a mare which is nursing a foal than one which is not, and the production of horses is constantly increasing in cost and in the yielding of profit. In order to determine the relative efficiency of brood mares for farm work, last year, the University of Missouri undertook an experiment. In this experiment three pairs of mares were used and the data on two pairs are here presented. The mares were divided into two lots: Lot 1 consisting of the mares nursing foals and Lot 2 of the dry mares. The mares were worked in teams, each team consisting of one mare with a foal and one without a foal. Feed and weight records were kept and the following data is presented:

"One of the mares with a foal ate an average of 10.98 pounds of corn, 10.98 pounds of oats and 23.6 pounds of hay per day during the period that she nursed her foal—147 days in length. She had an average weight of 1,386 pounds. The mare that worked with her had an average weight of 1,480 pounds and ate an average daily ration of 7.5 pounds of corn, 7.5 pounds of oats and 20.7 pounds of hay. In the other pair here reported, the mare suckling foal had an average weight of 1,286 pounds and ate an average daily ration of 11.05 pounds of corn, 11.05 pounds of oats and 22.96 pounds of hay. The mare which worked with her in the team had an average weight of 1,363 pounds and ate an average daily ration of 7.29 pounds of corn, 7.29 pounds of oats and 15.98 pounds of hay. The corn and oats fed these mares was of good quality and the grain ration consisted of one-half each. The hay was good mixed timothy and clover hay. The mares nursing foals lost a great deal in weight during the hot part of the summer, were in very thin condition and suffered more from the heat than did the other mares. It will also be seen that these mares nursing foals ate an average of 7.24 pounds of grain and 5.55 pounds of hay more per day than did the mares not nursing foals. Besides this, the foals ate an average of 3.6 pounds of grain per day and .57 pounds of hay daily during the time they were nursing their mothers. It will be seen from this then, that the colts should be charged with not only the feed that they consumed themselves, but the increased feed required by their mothers. While the mothers did as much work as the other mares, they were in thin condition at weaning time, and it has taken considerable feed to get them back in good flesh. The foals required some labor, because they had to be fed and handled and these operations always cost money. Besides the extra care and extra feed, there was a period of forced idleness following the birth of the foal for ten days and there was a stallion service fee to be paid.

"By estimating the cost of feed, service fee and the other items as

they apply in various localities, an estimate can be made on the production of the draft foal from birth to weaning time, which is approximately \$40 to \$60. Thus, it may be said that brood mares can take their place as a farm team and produce a foal at the same time, yet that does not argue that the foal is clear profit because it will be seen from the above that this is not the case. If the foal costs \$40 to \$60 at weaning time, it is evident that there is little profit in producing a foal that will sell for only those figures at weaning time. It is probably not advisable to work brood mares as hard as other mares are worked and on the average farm it is not necessary, but this experiment was inaugurated with the direct idea in view of ascertaining whether or not brood mares

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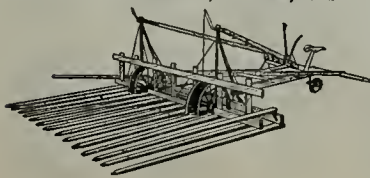
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"The motor truck has caused some derangement in the draft horse and mule market, yet we are told that the motor truck will not seriously interfere with a large number of city horses. In fact, the price as seen at the present time indicates that good horses will always be in demand. The automobile has affected the price of light horses, yet the high class light horse is always in demand. Students of the market tell us that the class of horses which

have been affected by the motor truck and by the automobile are the "in-between" kind, or the medium horses. But there is a constantly increasing demand for high class horses.

"The farms are the only places that we have for horse production in the United States. The demand seems to be permanent and safe for high class horses. The means of producing high class horses is by the use of good brood mares on the average farm in such a way as to make it possible for them to rear a colt and pay for their keep by their work, together with the use of the very best stallions available and in the case of mules and draft horses, and, as a matter of fact, all horses, a liberal supply of feed at all time. Under these conditions, the production of horses will continue to be profitable and pleasant on the average farm."



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VALUE OF BIRDS ON THE FARM

BIRDS AS RODENT DESTROYERS OWLS.

In his warfare against rodent pests in orchard, garden and field, the birds of prey are of special value to the farmer, in the fact that they labor both day and night. While the hawks hunt by day the work of the owls is carried on chiefly at night, so the work of the one supplements that of the other.

While the great horned owl is of doubtful utility, the barn owl, or monkey-faced owl, as it is commonly called, stands out pre-eminently as a friend of the farmer. While pigeons are sometimes driven from coops by these birds they are seldom destroyed.

The barn owl is especially useful during the nesting season, sixteen mice, three gophers, a ground squirrel and a good sized rat being fed to one nestful of birds in about half an hour. In fact, young barn owls will sometimes eat their own weight in food during the night. As the young birds usually number from five to ten and remain in the nest for about seven weeks, the harmful rodents destroyed during that period alone would be enormous.

In California the barn owl feeds largely on gophers and mice. It is said to be "the best gopher catcher a man can have on his place," and one farmer has gone so far as to say that he would gladly pay \$10 for every one of them he could get to nest on his place. Boxes placed on barns or sheds will sometimes attract these birds by furnishing them with nesting sites.

Two other common owls, the burrowing and screech owls, feed extensively on insects.

The food of the screech owl consists largely of insects, as many as fifty grasshoppers having been found in the stomach of one of these birds, while crickets, beetles and cutworms are also eaten. These birds are also diligent mousers. According to Dr. A. K. Fisher, "at nightfall they begin their rounds, inspecting the vicinity of farmhouses, barns and corn cribs, making trips through the orchards and nurseries, gliding silently across the meadows or encircling the stacks of grain in search of mice and insects. Thousands upon thousands of mice of different kinds thus fall victims

to their industry. Their economic relations, therefore, are of the greatest importance, particularly on account of the abundance of the species in many farming districts."

The little burrowing owl, unlike most owls, works mostly during the day. It is the greatest destroyer of insects among the owls, feeding almost entirely on them at certain seasons, while at other times small mammals are eaten.

Aside from the harm done to crops by certain small animals, their habit of girdling trees has also ruined many a valuable orchard. In an orchard in Maryland 2000 apple trees were thus ruined by rabbits within two months. In referring to this, Professor Beal says: "It is very significant that the nursery was near farm buildings where the wild enemies of the rabbits did not dare to come, while a newly set orchard at a distant part of the farm and close by woods and thickets was hardly touched."

A better knowledge of the exact relation of bird life to the farmer would often help to save thousands of dollars. Not long since a plague of meadow mice in Humboldt County, Nevada, caused the loss of 15,000 acres of alfalfa, as well as hundreds of dollars, before the farmers of that region finally got control of the pests.

As another case in point the writer would refer to the famous "scalp act" passed by the Pennsylvania Legislature in 1885, which provided for a bounty on certain birds and animals believed to be injurious. In less than two years the state expended nearly \$100,000, a large part of which went to kill hawks and owls. In other words the state had actually paid for the destruction of birds of inestimable value to the farmer. The money thus expended represented but a small part of the actual loss to the state, for their natural check being removed, the small animals increased accordingly, and the destruction of crops which followed clearly demonstrated the important work which had been done by hawks and owls.

In this connection Dr. A. K. Fisher has said: "The sooner farmers, ranchers, horticulturists and nurserymen learn that the great majority of birds of prey are their friends, and deserve protection, the sooner will depredations by noxious rodents and insects diminish."

LIVE STOCK ESTIMATES—UNITED STATES AND CALIFORNIA.

Live stock estimates as of January 1, 1914, with comparisons, for California and for the United States, as made by the United States Department of Agriculture, are given below.

(Numbers and total values in thousands, i. e., 000 omitted.)

HORSES	CALIFORNIA		UNITED STATES	
	1914	1913	1914	1913
FARM ANIMALS				
Number	498	503	20,962	20,567
Price, January 1	\$100	\$109.00	\$109	\$109.77
Value	\$49,800	\$54,827	\$2,291,638	\$2,278,222
MULES				
Number	73	73	4,449	4,386
Price, January 1	\$120	\$130.00	\$124	\$124.31
Value	\$8,760	\$9,490	\$551,017	\$545,245
MILCH COWS				
Number	515	510	20,737	20,497
Price, January 1	\$62	\$53.50	\$54	\$45.02
Value	\$31,930	\$27,285	\$1,118,487	\$922,783
OTHER CATTLE				
Number	1,410	1,454	35,855	36,030
Price, January 1	\$33	\$29.20	\$31	\$26.36
Value	\$46,530	\$42,457	\$1,116,333	\$949,645
SHEEP				
Number	2,551	2,603	49,719	\$51,482
Price, January 1	\$3.80	\$3.70	\$4.00	\$3.94
Value	\$9,694	\$9,631	\$200,803	\$202,779
SWINE				
Number	797	822	58,934	61,178
Price, January 1	\$10.50	\$9.20	\$10.40	\$9.86
Value	\$8,368	\$7,562	\$612,951	\$603,109

Peruvian Alfalfa.

Written for The Live Stock and Dairy Journal by Harold McAllister.

Peruvian Alfalfa is a new, long season variety recently introduced into the United States from Chile, South America. The seed was sent to the Department of Agriculture by Mr. Adolfo Eastman Cox who in his letter of introduction recommended the Peruvian over the Chilean alfalfa, saying that "The stems are hollow and more succulent and grow higher. It commences growth earlier in the spring and grows later in the autumn. Owing to this advantage the crop per acre is heavier." In 1904 the Bureau of Plant Industry of the U. S. Dept. of Agriculture instituted a life history of alfalfa with thirty regional strains under investigation among which was the Peruvian variety. In this investigation at Yuma, Arizona, when in the middle of November, Peruvian alfalfa was 24 inches high, Turkestan was but 12 inches and the native alfalfa about 10 inches tall, and while practically all growth had ceased in the last two varieties the Peruvian continued to grow throughout the winter and was ready for the first cutting the last of February. In the spring of 1907 the difference was even more marked and on June 8th the Peruvian was fully three feet high while none of the other varieties was more than two feet.

This great difference in growth is explained by the fact that the zero point or the mean temperature below which growth ceases of Peruvian alfalfa is about 48 degrees F., while that of common alfalfa is about 57 degrees F. Thus while ordinary alfalfa stops growth when the temperature goes below 57 degrees F., Peruvian alfalfa is able to continue in growth in nine degrees colder temperature and therefore does not stop growth in the autumn in mild climates as other varieties do. Moreover temperatures below the zero line at night prevent the complete utilization of the available positive temperature as a warm sun for several hours is required to take off the chill before growth can proceed, and so ordinary alfalfa is also far more affected by cold nights than the Peruvian strain. Even when there are temperatures that might be used by ordinary alfalfa in winter, it is prevented from making a complete utilization of the available heat if frost happens to occur while Peruvian being more hardy and resistant to frosts is able to make a splendid winter growth. But this same great advantage of continuing in growth in mild climates subjects it on the other hand to winter killing in more severe climates as Peruvian is caught and killed by the first very cold freeze while still growing while other alfalfas having gone into the dormant stage are not hurt. In the Great Plains region up to Saskatchewan, Canada, it has proven to be the most tender alfalfa known, about 99 per cent on the average being winter killed.

In the Sacramento, San Joaquin, and Imperial valleys Peruvian alfalfa will make enough winter growth to furnish an extra cutting of hay thus increasing the yield over ordinary alfalfa from 15 per cent to 20 per cent. This winter growth can also be utilized for pasture or for soiling, making a most valuable green feed for dairying and other industries where succulence is needed throughout the year. It is more vigorous and grows more rapidly than common alfalfa and is also able to resume growth much more quickly after being cut.

C. J. Brand, Physiologist in charge of the Clover and Alfalfa investigations for the U. S. Dept. of Agriculture states that "It has but two disadvantages in regions where it is suited, hairiness and a tendency to become woody. Both of these adverse conditions can largely be prevented by thick seeding, of not less than 20 to 25 pounds to an acre. In thick stands the plants have very few hairs except at the top and in addition this overcomes the tendency of the plants to become hard and woody, leaving the stems even more succulent than those of common alfalfa at the same stage of growth. The ability of this variety to withstand a lower temperature than any other strain during development of growth is no doubt largely due to this hairiness. It is very probable that this plant will be able to grow in those cold regions where the approach of winter is so gradual as to force it to become dormant before the severe freezes come. It is best suited for growth under irrigation and is not adapted for dry farming except for seed production, as under these conditions seeding is of necessity too thin to give a good or fine quality of hay. It seeds however, abundantly and later in the autumn than common alfalfa thus giving time for an extra crop of hay to be cut in years of seed production and allowing harvesting to be done when the farm work is the least pressing. The extra cutting of hay in winter is harvested also when hay generally is the most valuable and sells for the highest on the market. B. T. Gallo-way, former chief of the Bureau of Plant Industry, says that, "This new form is of great promise from a practical point of view because it not only has a longer growing period but and grows to a larger size, hence yielding decidedly more than ordinary alfalfa."

The Peruvian plant itself is so different from the other alfalfas that it constitutes in the minds of the best informed a distinct variety of alfalfa. A field of Peruvian alfalfa is readily distinguished at a glance where it ends and ordinary alfalfa begins even though the two fields join together and both are the same height. Minute downy hairs cover the plant from very dense at top to somewhat thinly at bottom, which together with the almost white color of the veins of the leaves gives the plant a gray color. The stems are taller and less branched and a fewer number arise from each crown. The stems are large and grow very coarse and woody when not cut promptly and are more erect than common alfalfa. As many plants have four, five and even six leaflets to a leaf instead of the characteristic three it may be possible by selection no doubt to select a five or six leaflet type and so vastly improve the quality of hay that it may be made superior to the best hay made from other alfalfas. It would also set such a standard that would prevent the sale of adulterated seed to the public.

The Arizona experiment Station states that, "Among the 45 regional varieties tested at Phoenix and Yuma only four or five have proven themselves worthy of trial in competition with the native alfalfa. One of these, notably a tall, vigorously growing Peruvian type, seems to be exceedingly promising. It seems eminently suited to climatic conditions in Arizona. It holds stand well and in yield has exceeded all other types. It is somewhat coarse and

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Geo. H. Mastick, Attorney, Mastick Ranch, Middletown—Percheron, LONGIS.
Gardiner Estate, Isleton—Percheron, LOHENGRIN.
R. I. Orr & Jos. Daly, Hollister—Belgian, CHANAL de LA LYS.
Robert Silva & S. Machado, San Gregorio—Percheron, ITHOS.
Louis Titus, Titus Ranch, Tracy—Percheron.
J. Silveira, Tulare—One Percheron and one Belgian.
Geo. Simon, Turlock—Belgian, GILLES de VINCHE.
Eldon P. Mains, Turlock—Percheron, LOSANGE.
And a score of others.

Western Stables, 47th and San Pablo Ave., Oakland, Calif.
McLAUGHLIN PERCHERON COMPANY

stemmy but this defect can be overcome to a large degree by thick stands and early cutting."

Numerous crosses have been made between Peruvian and other varieties of alfalfa in an attempt to secure hardness and other qualities. One of these crosses with a dwarf growing plant from the Caucasus resulted in a hybrid growing 24 inches the first season and having very thick and long-growing root stocks underground. The official forecast is that, "It will possibly be much harder than the typical Peruvian variety. It seems peculiarly well suited for growing in warm areas where irrigation is lacking."

The United States Dept. of Agriculture also mentions that, "In the matter of alfalfa numerous crosses have been made, the most promising one which we designate as No. 15. This is a cross between Peruvian and Turkestan alfalfa. Resulting plant has a dark stem and medium size leaves and furnishes a large quantity of forage and fodder. It also produces large quantities of seed and is believed to have superior qualities as a forage plant. It has been grown for past two winters

near Washington without injury."

In the experiments conducted by the United States Department of Agriculture at Chico, Cal., it is stated that "The Peruvian stands out prominently as the largest hay yielding variety. The Peruvian in each of the four years tested produced more hay than the ordinary Provence or Arabian with which it was compared." Following is the list of comparative yields:

	1910	1911	1912
Peruvian	5,692	13,856	16,424
Provence	4,888	13,072	13,360
Ordinary	4,376	13,012	13,576
Arabian	5,448	13,076	7,864

Total for Three Years.

Peruvian	35,972 lbs. per acre
Provence	31,320 lbs. per acre
Ordinary	30,984 lbs. per acre
Arabian	26,388 lbs. per acre

The moisture content for Peruvian and Ordinary alfalfas as found to be practically the same for the same stage of maturity. The percentage of leaves by weight was 52.5 per cent in case of Peruvian and 49.2 per cent or slightly lower in

(Continued on Page 18)

Salvador Stock Farm

Have Just Received a Fresh
Importation of
Shire Stallions

I am able to supply you with
Good Horses at Reasonable
Prices

Henry Wheatly, Napa, Cal.



BEEF CATTLE

SACRAMENTO COUNTY BREEDER TO BUILD UP SHORTHORN HERD

The name of Murphy has long been associated with Shorthorns in California, due to the long years which P. H. Murphy, of Perkins, devoted to their breeding. It remains for one of his sons, H. L. Murphy, to increase the size of the herd and develop it along the lines of milk production.

The most serious problem so far on the Murphy ranch has been the matter of feed, and this is indeed important when it is considered that the ranch is situated among lands that are valued at from \$300 to \$600 per acre, being only three miles from Sacramento city limits, and in a locality where land values are bound to go still higher.

A great deal of development work has been done on the ranch within the past year in the way of leveling and seeding to alfalfa, installing irrigation, and putting up new fences, and by midsummer the place will be abundantly able to carry quite a herd of cattle.

The present herd is not large but contains some very excellent material around which to build a larger herd, some of the young stock being especially good.

The entire herd was recently subjected to the tuberculin test by a graduate veterinarian, and not a single animal reacted. This test was made for the purpose of making sure of the soundness of the foundation upon which the herd is to be built.

Mr. Murphy has been compelled to turn down many orders for bulls this

spring owing to the limited number in his herd, but at present his eight or nine about ready for breeding service.

UP TO THEIR REPUTATION

The lot of imported Percheron stallions consigned to McLaughlin Percheron Company, Oakland, Cal., reported to the Journal as just passing through Chicago at the time we were going to press last month, arrived at the McLaughlin stable in Oakland in good shape, and are fully up to the claims made for them by Eastern horsemen. They are an especially good lot of young, typey horses, and while they have been in California only about three weeks at this writing, some have already been sold and others are practically sold. Of the more recent sales from this lot, S. E. Williamson of Riverdale purchased the grey 2-year-old Lamiral, and Layard, also a 2-year-old, has just been sold to a buyer at Suicun.

The balance of those left in the McLaughlin barn are, with one exception, a great lot of black and grey 2 and 3-year-olds.

The one exception, which is for age, not on account of quality, is Jolicoeur, a 4-year-old black of exceptional individual quality and noted breeding.

Between the 2-year-olds, Lit, Lishour, Laurier, and the 3-year-old Kino, there is so much quality that a choice would finally be determined by the minor consideration of personal preference in detail.

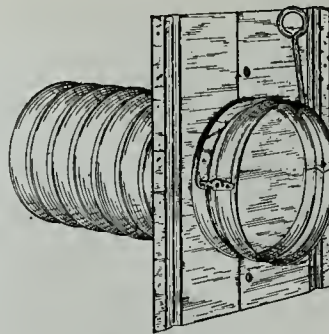
Peruvian Alfalfa

Continued from Page 17

case of Ordinary alfalfa.

That hardness may in time be bred into Peruvian alfalfa is shown by the fact that a few plants of this strain survived the severe winter of 1903-04 at Washington, D. C. At that place also a plat of Peruvian alfalfa was found to be resistant to the leaf spot disease while a check plat of ordinary alfalfa was nearly ruined. This leaf spot fungus is particularly destructive in the humid regions. This plat of Peruvian alfalfa also because of the hairiness, leafiness and vigorous growth of the plant so attracted the attention of investigators at Washington that it was made the basis of the first experiment of growing alfalfa by means of vegetative reproduction.

In view of all these numerous points of superiority it would seem as if Peruvian alfalfa had a wonderful future before it in the great Southwest and it offers every farmer advantageously situated a splendid opportunity of increasing his yields and his profits per acre by raising this remarkable new variety.

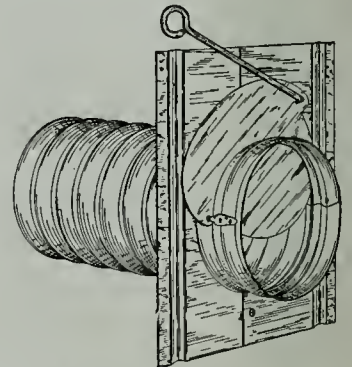


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Does not wash out.
Saves water and stops scalding of crops.
Can be removed, ditches cleaned with teams, and gates replaced without loss.

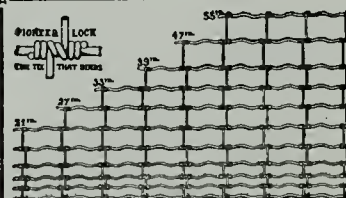
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because made from
RUST RESISTING
AMERICAN INGOT
IRON

Five other types of Gates,
Culverts, Siphons, Flumes,
Stock and Water Troughs.



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Hopland Stock Farm

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SHROPSHIRE SHEEP and BERKSHIRE HOGS. HUNGARIAN PONIES, saddle and harness. Prices on application.

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HOWARD CATTLE CO.

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PEDIGREED LIVE STOCK

The demand for Bulls is large in California, and the supply limited. We would suggest your placing orders well in advance.

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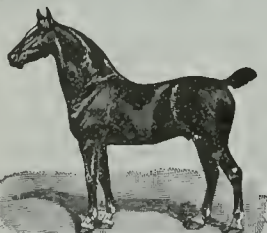
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HANFORD, CALIFORNIA

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A Safe, Speedy and Positive Cure for
Curb, Splint, Sweeney, Capped Hock,
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Puffs, and all lameness from Spavin,
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Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism,
Sprains, Sore Throat, etc., it is invaluable.
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warranted to give satisfaction. Price \$1.50
per bottle. Sold by druggists, or sent by ex-
press, charges paid, with full directions for
its use. Please send for descriptive circulars,
testimonials, etc. Address

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IMPROVED POWERS COMBINED BORING AND DRILLING MACHINE

Bores thru gravel, sand and clay like a streak of lightning. If rock is struck it drills thru that. Forces casings perfectly. One man and one team can run it. You can make \$1 an hour for your spare time.

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SHEEP

National Forests in Relation to Emergency Grazing Situation of 1913

Address at California Wool Growers' Meeting, January 9, 1914.

By JOHN H. HATTON,
(Assistant District Forester, San Francisco, California.)

The drought situation in the Santa Clara and San Joaquin Valleys began, as a number of you know, not in 1913, but in the spring of 1912. We were already making a canvass of the national forests of California early in 1912 to see whether we could take care of any additional valley stock should an emergency arise, when timely rains came bringing with them temporary relief. No emergency arose, therefore, that season, sufficient to give rise to any special demands on national forest pasture.

The general drought continued serious, however, throughout the summer and winter of 1912 and conditions became acute in April and May, 1913. In fact, stockmen couldn't see any feed beyond May 10. There was no roughage from the previous year and pastures were practically bare, with no prospect for any new growth.

The resolution of the Stockmen's Protective Association of March 21, 1913, copies of which were forward to Representatives in Congress, the Secretary of Agriculture, the Forest Service both in Washington and San Francisco, and the memorial to the California State Legislature from the California Live Stock Breeders' Association grew, therefore, out of a definite and vital need, the urgency of which we all realized to the full extent.

Naturally stockmen looked to the mountains or the national forests for relief. It is not an exaggeration to say that comparatively few people outside of those directly or indirectly concerned with the actual use of the national forests have a clear conception of the extent of our actual, unused grazing resources. A great many people have had the erroneous impression that unlimited forage annually goes to waste. One of the results of the conditions the past summer has been to clear up this misconception in the minds of many. I want to state that accessible forage in great abundance on the national forests has not been and is not being locked up or withheld from use. As a matter of fact the national forests are for the most part fully stocked where the ranges are convenient and sufficiently accessible to furnish a demand for them. Where we have surplus feed in appreciable quantities, it is well back in the mountains and difficult of access.

Handling of the Grazing Emergency.

I would like here to review briefly what actually took place when the requests for assistance came to the attention of the Forest Service last spring, to show you that every effort was put forth to offer such relief as we could promptly and as unhampered by red tape as possible. The service was criticised in some quarters for not throwing the forests "wide open," but I think you will readily see that such a course was impossible, and might have done a great many people injury, while actually benefiting few or none.

The Livermore Stockmen's Protective Association passed its resolution on March 21. About the same date a resolution was introduced in the State

Legislature asking the California delegation in Washington to use their best efforts in securing the desired privileges. The appeal was made to the national parks, as well as the national forests.

Immediately on receipt of the resolutions the Forest Supervisors were asked to report the number of additional stock they could carry on their respective forests. They were urged to make an estimate that would secure full utilization of every possible piece of range. A representative of the San Francisco office spent several days in the country affected by the drought and found that conditions were fully as bad or worse than reported. On April 8 complete stock of our available surplus resources was reported to the forester with a recommendation that the high Sierras be opened to sheep to help out. We found outside of the high Sierras and some back range in the Klamath County, we could not take care of more than 8,500 additional cattle on the ranges already occupied, and but a small number of sheep without serious effect on regular permittees, or without overstocking already used ranges. Including the high Sierras we found we could offer relief for a maximum total of only 8,850 cattle and horses, and 64,500 sheep and goats. This included range in the Klamath of doubtful use, which had once been tried by sheepmen and abandoned.

April 21, about three weeks after the resolutions praying for relief were received, the additional estimates were ready and special authority from Washington received. Steps were taken then to secure applications. Advertisements were sent to four papers in the San Joaquin Valley and all prospective applicants notified that a representative of the service would be at Livermore, April 26; at Stockton, April 27; Fresno, April 28; Hanford, April 29; and Bakersfield, April 30. The supervisors of the Stanislaus, Sierra, Sequoia, Kern and Inyo Forests were asked to be at these meetings or send a representative, in order that a complete understanding might be had and all the details as to drives, etc., worked out. At each of these meetings there were about fifteen sheepmen.

The result of these meetings were that we received applications from approximately 100 sheepmen for 230,740 sheep and 64,200 lambs; and from thirty-two cattle and horse owners for about 5,000 head. Besides these there were about eighty applicants who applied direct to the supervisor for cattle and horse permits, making a total of 112 for this class of stock.

As stated, the total sheep applications not considering the 64,200 lambs, covered 230,740 head. (We don't

count lambs under six months old which are running with their mothers, our estimates being based on old sheep only.)

We could provide for a maximum total of 8,850 cattle and horses, and 64,500 old sheep with their lambs, provided the Klamath ranges which were doubtful, could be used. We were assured that range for only 41,000 sheep would be taken. In other words we had about enough cattle and horse range to meet the demands for this class of stock, provided it were practical for stockmen to use it, but we were assured of being able to provide range for less than one-fifth of the number of sheep applied for in addition to our regular occupants of the ranges.

Accordingly it became necessary to establish a set of preferences and to look for range elsewhere. The District Foresters at Denver, Albuquerque and Ogden were wired and replies were received that they could take care of 16,000 additional cattle and horses, and 68,200 sheep, but only in one or two instances, as I remember, were stockmen willing to ship, or did ship these long distances.

In establishing rules of preference about the same principles were applied as are on the national forests. First consideration was, therefore, given to:

1. Small resident owners of stock range and ranches.
2. Large resident owners of stock range and ranches.
3. Large resident owners of stock who do not own sufficient range or ranch property to support their stock, but depend upon leasing.
4. Non-resident owners.

It was found of the 100 sheep applicants there were thirty-six only who owned and resided upon improved ranch property. These thirty-six owned 124,360 head of grown sheep, 47,100 lambs and 1,065 cattle and horses. I'll not discuss the cattle and horse applications since few who applied at these special meetings wished to use the ranges on account of the long distances to drive or ship and other inconveniences. We actually accommodated under emergency permits, however, eighty-three owners of cattle, with a total of 7,103 head, or about all the cattle applicants who cared to take out permits.

With only a resource which we could actually be sure of using, which would take care of 41,000 sheep, it was necessary to disapprove at the

start the applications of transient owners and confine the privileges to resident ranch owners. It was also necessary to limit 1250 sheep, plus the natural increase of lambs. This might give a maximum, including lambs, of 2,500 head or less, depending upon the lamb crop. If owners did not have the regular quota of lambs they were allowed to take in additional old sheep at the ratio of one old sheep to three lambs, to make up the number. Thirty-two sheep applications were approved, aggregating 42,215 old sheep, or 2,215 more than our estimates called for. No success was had in interesting own-

Frank A. Mecham

Breeder and Importer of

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American Merino Sheep

RED POLLED BULLS FOR SALE

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TO LAND OWNERS

An English sheep farmer from Australia, of large experience in sheep ranching, expert in cultivating pastures for fattening stock, early spring lambs, and growing fine wool, is now open for an engagement to manage or establish a first class ranch.

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1400 Yearling Rams

1000 Ewes

Prompt Delivery Correspondence Invited

CHAS. A. KIMBLE

Hanford, California



San Ramon Shropshire Flock

PRIZES WON BY FLOCK, 1912:

- California State Fair—Six firsts, Champion Ram and Champion Ewe.
 - Oregon State Fair—Two firsts, Champion Ram and Champion Ewe.
 - Spokane (Wash.) Interstate Fair—Five firsts, Champion Ewe.
 - Boise (Idaho) Intermountain Fair—Eleven firsts, Champion Ram and Ewe over all breeds.
- PUREBRED AND REGISTERED SHROPSHIRE RAMS FOR SALE, INDIVIDUAL OR CARLOAD LOTS.



First Prize Ewe Lamb at Omaha.



First Prize Ram Lamb at Omaha.

BISHOP BROTHERS, SAN RAMON, CALIFORNIA

Mention The Live Stock and Dairy Journal When Writing to Advertisers.

ers in the Klamath country, only one or two parties shipped to Colorado.

Difficulties.

There were petitions praying for the admission of stock, and there were counter petition praying that they be kept out. In the few cases of conflict first consideration was given to the needs of those who were suffering for range. On the other hand, a situation infinitely worse than the one already before the service would have arisen if the demands of some that the forests be indiscriminately thrown wide open had been conceded. As stated in the beginning of this discussion, most of our accessible ranges were already fully stocked. By fully stocked is meant carrying the number which they should under normal range conditions. This was particularly true of the sheep ranges, and to have admitted all the sheep affected by the drought would have meant that they would have been indiscriminately spread over the cattle ranges, with the result that no one would have had a marketable product. Besides the ranges would have been reduced to their former over-grazed condition. The fact that some effort has been made to improve the ranges under National Forest administration made it possible to accommodate over 7,000 additional cattle and horses on occupied cattle and horse ranges when this emergency arose. That same fact is enabling the service to gradually increase the numbers under regular permits from year to year, on most of the National Forests of the State.

It is realized, too, that stockmen themselves had many difficulties to confront. This led to indecision and resulted often in delays. A number of approved applicants changed their minds several times and the problems of yesterday which we thought solved were daily renewed. A number backed out at the last minute or made no response to letters and wires for definite decisions, thus making it necessary in a few cases to reconsider other applicants first disapproved. One Stock Journal took this point up and severely criticised the service for not adopting a more liberal policy in the beginning. It was felt that the criticism was unfair, since the estimates were consumed anyway, although considerable confusion arose out of the indecision of applicants.

The difficulties in reaching the ranges were also considerable on account of long drives and rough country. As one party said when told where his allotted range was, "Well, maybe so I get there in time to come back."

In addition to long drives, feed along the route was scarce. And surmounting all these adverse conditions, extremely and unusually bad weather was encountered. Much of the stock and many of the men with them were unused to mountain conditions, and all this contributed to the unfavorable features.

As to the regulations and requirements, it should be said that excepting two or three applicants who violated or refused to follow the regulations or their instructions, the service was well pleased with the men who drove in and their efforts to abide by certain necessary instructions. We did not wish to bring trespass proceedings against two or three parties who gave trouble, in view of all the circumstances, but in handling a similar situation in the future, it would be only fair to those who DID try to do what was right, to refuse to grant future concessions to those who did not.

As for sheepmen themselves who took out permits, we have had various expressions—some very favorable and others not so favorable, in regard to the ranges used and the benefits received. In most cases the sheep entered the mountains in poor condi-

tion; all left, however, in fair to good flesh. If the concessions did not in every case bring maximum benefits, it should be said that a very unusual, serious, difficult and much involved situation came up for immediate solution, which it is believed was handled with reasonable promptness and effectiveness. The experience of one season has suggested several things which would greatly help in handling a similar situation. Already certain driveways have been revised and feed areas laid out along the routes. Arrangements could also be made to get the sheep back on the ranges from two weeks to a month earlier, depending on the character of the season. There is no complaint to be made as to any detrimental effects upon the ranges used.

Summed up, the service accommodated 7,103 cattle and horses and 42,215 sheep, in addition to those already using the forests. The emergency resources were estimated, authorizations received, stockmen notified, and applications filed in three weeks after the petitions were received. It was impossible to accommodate all who first applied and thus offer complete relief; but it is felt that everything within reason, and in justice to others already dependent upon the forests, was done to help out other stockmen who ordinarily find sufficient feed and pasturage at home. Moreover, the service offered what assistance it could most gladly and cheerfully, and stands ready to help again in the same spirit should a similar need or emergency confront the stockmen of the State.

TO IMPROVE AMERICAN WOOL BY AUSTRALIAN METHOD Better Business Practices Should Add Ten Per Cent to Wool Growers' Returns During Next Decade.

If American wools were sent to market graded and put up as attractively as are Australian wools, it is estimated that an increase in price of as much as 3 cents a pound might be received by the grower. Wool growers, dealers, and manufacturers generally admit that the American system (or lack of system) is very bad, and at the annual meeting of the National Wool Growers' Association in Salt Lake City, Utah, considerable interest was shown in the proposal to adopt the Australian method of putting up wool. Three cents a pound upon wools selling at from fifteen to thirty cents a pound is very high percentage of loss which can and doubtless will be prevented by growers in the future. The growers' gain in this particular is in no way opposed to the interests of the dealers or manufacturers.

The Bureau of Animal Industry of the U. S. Department of Agriculture has prepared a collection of American and Australian wools for use in educational work in this direction. This exhibit includes samples of various grades of wool, showing how grade and value may be determined by factors under the control of the sheep raiser.

Advantages of Australian Methods.

Australian and New Zealand wools are graded or "classed" at the time of shearing. They are also shipped in bales instead of sacks. The "wool classers" who do their work at the shearing plant are familiar with the basis of grading wool for manufacturers' uses. No bale contains more than one grade of wool, and any one bale is a true representative of others of the same grade shorn from the same flock. In many instances the fleeces are also "skirted." Skirting is the removal from the fleece of that part of the wool shorn from the legs and belly. Such skirtings contain most of the dirt and foreign

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FOR MOTOR CARS

is the *best automobile oil the Standard Oil Company can make*—produced after 40 years experience in the manufacture of oils for hundreds of different purposes and backed by the Company's long established quality guarantee. You can rely on Zerolene with absolute confidence. It is giving satisfactory service to thousands of motorists.

Dealers everywhere. Ask our nearest agency about delivery in bulk.

**Standard Oil
Company**
(CALIFORNIA)



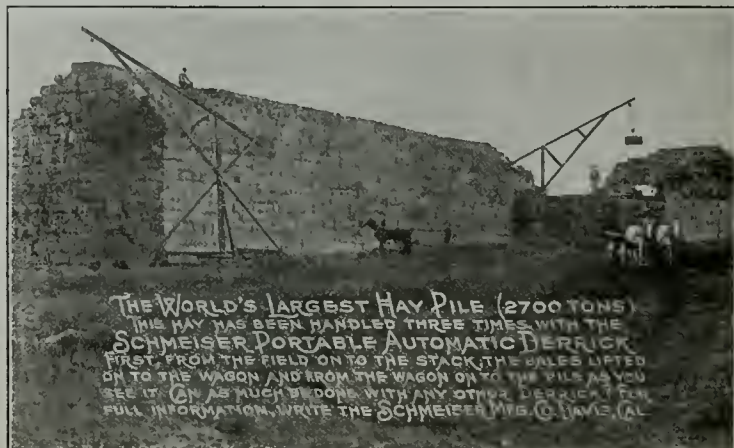
matter present in the fleece and when baled and sold separately bring their actual value and do not detract from the appearance and uniform character of the body wool.

Quite frequently the bodies of Australian fleeces are held together by a roll twisted from the fleece itself and which serves to keep the fleece intact while being placed in the bale and after the bale is opened at the market, thus avoiding possibility of injury from the use of unsuitable twine.

Only a small proportion of American wool growers separate their wool into grades before sacking for shipment. Unless the flock is of very uniform character the sacks of wool must be opened at the warehouse and their contents graded before being offered for sale. Skirting is never done in America and on the majority of ranches the tags or dung

locks are left with the fleeces.

The breeding of the sheep is of first importance in determining the grade of the wool. Wool growers, as a rule, are not familiar enough with the commercial grading of wool to understand into which of the grades the fleeces of a particular breed of sheep would be placed. Aside from the matter of grade, the value of wool is controlled to a great extent by the feed supply and methods of herding the sheep on the range. Lessons upon these points as well as upon the handling of the shorn wool can be brought home by the exhibit that has been prepared by the Bureau of Animal Industry. It is not too much to expect that in the next decade improved business practices will add over ten per cent to the returns received for wool by sheep raisers.





THE FARM WOMAN'S PAGE

CONDUCTED BY AUNT MARCEL

This department is conducted for the purpose of dealing in a helpful way with the many problems which are encountered by the woman on the farm. Household and home questions from our women readers are encouraged. Address all correspondence for this department to Aunt Marcel, The Live Stock and Dairy Journal, Sacramento, California.

TO PAPER YOUR

WALLS YOURSELF

A 75c white wash brush for applying the paste to the paper and an 18-inch smoothing brush for applying the paper to the walls are necessary.

Paste can be made by mixing sifted flour and cold water to the consistency of pan cake dough. Then add enough boiling water, stirring vigorously to keep it smooth, to make it a little thicker than starch. Add one teaspoon of soda and one of salt to every gallon of paste. Ready made paste can be purchased very cheaply and is much more satisfactory. It must be thinned a little with warm water before using and any paste must be perfectly smooth when applied to the paper.

All old paper must be removed before the new paper is put on. Otherwise the new paper will wrinkle and have an untidy appearance. Besides it will be apt to show the figure on the old paper faintly if it is light in shade. The old paper can easily be removed by taking a paste brush and painting the walls thoroughly with warm water so that the paper is quite wet. After a half an hour it can be torn off in large pieces and all the parts that still adhere can be moistened a second time.

If the walls are plastered the paper can be applied directly but if they are ceiled house lining will have to be tacked on and the paper applied to that. If this is not done the wood in swelling and shrinking cracks the paper. All unevenness in plastered walls caused by cracks should be smoothed up with sand paper.

Having first prepared the walls a long table upon which to work must be constructed. Take one roll of paper and trim off the right hand edge to the mark. Do not trim the left hand edge. Measure the wall and ceiling and get the proper length for the paper. Always do the ceiling first. The same rules apply to both. Let the edges of the ceiling down half an inch so that the wall paper will cover the edge. Unroll the paper with the print side up and cut to the proper length using a square and a knife. In doing the walls should the length be such that the figure on the paper will not match, a small piece will have to be cut off each length and be discarded. Each piece is cut on top the one preceding and left there so it is easy to match the figures. When one whole roll is out and ready cover the table with newspapers to catch the paste. Turn the pile of paper over print side down keeping the edges even. Apply the paste to the first strip evenly, thoroughly and not too thick being sure the edges are well coated. If the ceiling is being done two persons will be necessary, one taking hold of each end. Begin on

one side and be sure the edge is straight regardless of the fact that the walls, windows and doors may not be. Very few houses are true. Keep every piece absolutely straight, although to do so it may be necessary to lap more or less than the mark in some places. When the ceiling is done do the walls. After the paste has been applied to a strip fold it back about one-third on itself from the bottom end, do not crease it. It can then be handled by one person lifting it by the forefingers and thumbs. After the paper is moist from the paste it stretches very easily and must be handled with great care. Care must also be taken not to get any paste on the right side of the paper at any time. In doing the walls begin in a corner or next to a door or a window. Be sure the first piece is perpendicular and keep every piece so. In putting on the first piece make one stroke with the smoothing brush down the middle from one end to the other or from top to bottom. Then brush from the center out to each edge always in the same direction. After the first piece is on the right hand side of the second piece (which has been trimmed) is lapped over the left hand side of the first piece to the mark. Never try to lap around a corner. Cut it off a half an inch around and paste a new piece or the part cut off over the half inch. First paper all plain spaces then fill in the corners.

If the ceiling is low it is better to run the wall straight up without a drop placing the molding just beneath the ceiling. If a drop is desired, however, it is done by pasting a strip of the ceiling paper around the wall at the top and the molding is placed at the bottom of this.

BOOKS YOU WILL ENJOY

"The Iron Trail" by Rex Beach is a stirring story of the struggles of the pioneers of Alaska. It has not a dull moment from start to finish, and is exceptionally well written and clean. It is more than worth while reading.

"Laddie" by the author of "The Harvester," Gene Porter-Stratton, is a pretty story of ranch life in the west. The hero, Laddie, about whom the story centers is very unusual and very lovable. If the characters are somewhat improbable one forgives it for their idealism and on the whole the book leaves a wholesome memory.

MADE OVER MEATS.

Take any scraps of left-over lean meat and put through the meat grinder with some onion. Add some stale yeast bread crumbs crumbled very fine and one or two eggs beaten well. Season with salt, black and

red pepper, a little bit of Worcestershire Sauce, thyme, sweet marjoram and sage. Use the seasoning very sparingly. Moisten it all with some strained tomato juice to which has been added a very little sugar. Also add a piece of butter. Put it all in a baking dish and bake 15 minutes.

LEMON PIE. (2 Pies.) CREAM FILLING.

Juice and grated rind of 2 lemons. 1 egg and the yelow of 6 more. 3 heaping tablespoonsfuls of flour. 2 coffee cups of sugar. 2 coffee cups of boiling water.

Sift flour and sugar. Beat eggs together until they are very light and add the flour and sugar, creaming well. Add the boiling water very slowly, stirring well, and the lemon last. Cook in a double boiler until thick but not stiff. Stir it continually, keeping it scraped away from the sides and bottom. Do not let it lump. Have rich crusts baked, pour in the filling which must be very smooth, and bake until firm.

FROSTING.

Beat the whites of 6 eggs until stiff enough to stand alone. Beat in then 6 tablespoons of sifted sugar. When thoroughly beaten, cover the pies, return to the oven and brown slightly.

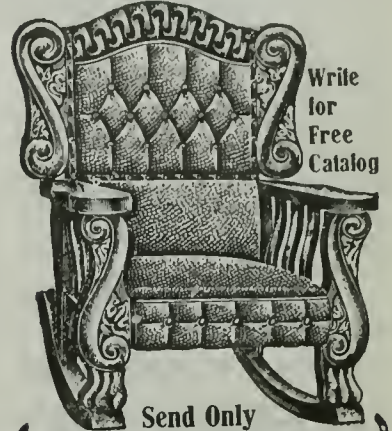
Dear Aunt Marcel:

My young daughter will be coming home soon from a nearby town where she is putting herself through school. She wants to bring a friend with her but her room is so unattractive I dread to have her do it. I have looked at it so many times but it seems as hopeless without an enormous sum for furniture, floor covering, wall papering, etc., that I always close the door and go away in despair. The walls are dingy, the furniture which was originally very cheap is old and marred, the ingrain carpet has lost its tints and colors and the woodwork is unsightly. The last was originally stained and varnished. Can you suggest anyway in which it could be made presentable without being too expensive. I have a little money I could spend on it. I am very handy at doing things for myself.

Mrs. F. W. R.

I do not think your room need cost you very much if you can do the work with the help of some members of the family yourself. Send to some large furniture house for sample of

wall paper at about 20c or 25c a roll. Select one in a dainty blue or pink stripe with a flower border which you can cut out yourself. Use plain white for the ceiling and a plain white molding. Buy some white paint and enamel and paint all the woodwork white and enamel the furniture. It will probably require several coats. Take up the old carpet and paint the floor a soft grey. Buy a few colonial rag rugs in the color to match the paper and lay them here and there on the floor. Two or three should be enough. Buy a few small



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prints of some good pictures and have them framed plainly. They are all the walls will need. Make curtains, bedspread, pillow shams and bureau scarf of 15c dotted Swiss. A silkoline lining to match the room under the bureau scarf and bedspread and shams will make it more attractive.

CORRESPONDENCE COURSES FOR WOMEN

The University of California is offering correspondence courses to housewives on Domestic Science. Women at home may, in this way, receive the same benefits that college women are receiving on this subject. The courses are on the selection of food in the home and feeding the family, which deals with the proper food for children, for men and women who must work, and for sick or convalescent members of the family. These courses are in charge of a competent woman trained professionally at the Columbia University. Those desiring to enter should write to the Dept. Domestic Science, University of California, Berkeley, Cal.

Farm women who will take them will doubtless derive much benefit from these courses.

VALUABLE FOOD BEING WASTED.

Good Suet Thrown Away or Used for Soap Which Could be Rendered and Used in Cooking.

Reports from some of the food specialists of the Department of Agriculture indicate that in certain sections there is a serious waste of a valuable food, due to the fact that many housewives do not appreciate the value of suet in cooking and do not know how to use it. As a result many throw good food suet into the garbage pail, or else in rare cases use it with meat trimmings for soap making. Many are unaware that suet possesses the same food value as lard, and if properly tried out is a satisfactory substitute for frying purposes, for shortening, and in making savory fats. Apparently some of the cookbooks have misled the American housewife by stating that suet is good only for soap making. In Europe, however, this food is carefully kept and rendered, and in Germany, suet and lard are used interchangeably for frying and shortening.

Suet is the hard fat about the kidneys and loins in beef and mutton which corresponds to the fat of hogs from which leaf lard is made. Those who do not know how to render it object to the hardness of suet and to its special flavor. Fresh suet, however, can be so rendered as to make a soft, usable fat, practically free from any distinctive flavor or odor.

The following is the simplest method for trying out suet:

"Remove the skin and lean parts from beef fats, and cut it into small pieces. Put it into a saucepan and cover it with cold water. Place it on the stove uncovered, so that the steam may carry off any disagreeable flavor. When the water has nearly evaporated, set the kettle back and let the fat slowly 'try out.' When the fat has ceased bubbling and the scraps of skin are shrivelled, allow the scraps to settle at the bottom of the kettle, strain the fat through a cloth and set it away to cool."

This fat is so valuable in cooking that housewives will do well to save all suet from their meat and try it out.

For those who want a mixture of suet and leaf lard the following recipe will be found useful:

"Take two parts of suet and one of leaf lard, finely ground, and mix together. Render this with whole milk in the proportion of one-half pint milk to two pounds of the mixed suet and lard. (Render means to melt down or to clarify by melting). The suet and lard mixture may be finely divided by

passing it through a meat grinder, and may then be heated in a double boiler, when the fat will be quickly released from the tissues, and when allowed to cool will form a cake on the surface of the liquid which may be easily removed."

This fat has a good odor, color and texture, and is softer than the suet alone. It is useful for frying and the shortening of food with high flavors and may be used with fair results in shortening such things as baking powder biscuits. It is useful for cooking vegetables either alone or with the addition of a little butter.

Do Not Let Fat Burn In Cooking

The unpopularity of fried food in many families is due entirely to the fact that the fat has been burned in cooking. Fat when heated to too high a temperature splits up and may form substances which have an irritating effect on the throat and may cause digestive disturbances. Fat in itself is a very valuable food and if it is not scorched should prove a healthful rather than an objectionable article of diet. A slightly burned taste and similar objectionable flavors can often be removed from fat by putting into it thick slices of raw potato and heating it gradually. When the fat ceases to bubble and the potatoes are brown, the fat should be strained off through a cloth placed in a wire strainer.

Poultry Editor The Live Stock and Dairy Journal: Please tell me in next issue what the weights of the following should be in male and female at maturity, Cornish Fowl, Houdans, and White Faced Black Spanish. Oblige yours, Y. I., Fresno, Cal.

Cornish Fowl, male, nine pounds, female, seven; Houdan, male, seven and a half, female six and a half; White Faced Black Spanish male, eight, and female, six and a half pounds at maturity.

Poultry Editor The Live Stock and Dairy Journal: As soon as the severe storms are over I want to sow some seed for green stuff for my chickens, and I have about a quarter of an acre for that purpose. What would you advise of the following, clover, alfalfa, blue grass, Swiss Chard, or lettuce? Awaiting the next issue for reply, yours, T. H., Watts, Cal.

If you can wait for a good crop of the best article for the purpose, alfalfa easily comes first, but the first crop of that will not be much, the second and later ones will prove that the time has not been wasted in waiting, and while so waiting it will be well to sow some lettuce or Swiss Chard to use while the alfalfa is growing.

Poultry Editor The Live Stock and Dairy Journal: A hen belonging to a neighbor has bumble-foot, and I said I would write to you about it as to cause and remedy, for your reply to others who are in trouble. I will look in next issue for a reply, and thank you. Yours truly, G. A., Monrovia, Cal.

Bumble-foot commences like a corn or wart on the under side of the foot, if not attended soon shows pus in the swelling which increases in size, sometimes affects the entire foot by getting in the ligaments and muscles, in which case death may come. It is generally caused by the chicken jumping from a height on hard ground, or on a stone or glass. Get out all puss by opening with a sharp knife and using peroxide of hydrogen, then apply on the whole skin round the sore a little of tincture of iodine by painting lightly, not on the sore; wrap a clean rag over the foot securely so dirt will not get in. Place the hen on clean straw away from others. Open the rag every second day and if necessary do same again in cleansing, and a small quantity of good healing powder scattered lightly on the sore will hasten a cure.

POULTRY

VALUE AND PRESERVATION OF HEN MANURE.

A recent bulletin of the Maine Ag-

riculture Experiment Station shows that the poultryman or farmer can materially add to the profits of his business by properly caring for the droppings of his fowls. For example, it is shown that the droppings from 1,000 fowls if preserved without needless loss are worth at least \$300 per annum, and this estimate is based on the assumption that less than half of the droppings, or only 30 pounds per hen per year, can be collected.

According to the Maine station, the droppings should be collected daily and mixed with substances which will (1) prevent loss of nitrogen, (2) add sufficient potash and phosphoric acid to make a better-balanced fertilizer, and (3) improve the mechanical condition of the manure so that it can be applied to the land with a manure spreader.

This can be done as follows: To each thirty pounds of the manure add ten pounds of sawdust, good dried loam, or peat, sixteen pounds of acid phosphate, and eight pounds of kainit. Such a mixture will contain about 1.25 per cent of nitrogen, 4.5 per cent of phosphoric acid, and 2 per cent of potash, which, used at the rate of 2 tons per acre would furnish fifty pounds of nitrogen, 185 pounds of phosphoric acid, and eighty pounds of potash, and at the present price of fertilizing ingredients is worth about \$10 per ton. The mixture would furnish a well-balanced stable fertilizer, which, although not fine enough to

work well in drills, can be successfully with a manure spreader. The treated manure should be well sheltered until time to apply to the land—that is, shortly before plowing.

Poultry Editor, The Live Stock and Dairy Journal—I killed what was apparently a healthy hen. The liver was full of tough, white spots and there were great lumps in her intestines and attached to her ribs; when I opened these lumps they seemed to be little short worms, yet they seemed to be lifeless. This hen was very poor, and yet had been a hearty eater. I threw the carcass away, and picked out the best one of my flock; she was in the same condition, though fat and hearty. We are on a new sagebrush ranch, where there is lots of alfalfa, grain and milk fed the chickens, also plenty of burnt bones and lime. Do you think sweet milk good for them, or sour? I fed them sour milk last year and I had lots of eggs. Those I killed were young hens and they would never have laid another egg.—Mrs. M. E. F., Coleville, Cal.

All indications show plain symptoms of tuberculosis in the hens killed and examined by you; the

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white spots and lumps in intestines, the spots of similar nature in the liver, and heavy eater with wasted body, are all indications of that disease.

Very contagious to rest of flock, and no cure. It appears from your letter as if this disease had got in the flock to quite some extent, and if others show loss of weight with your right feeding I would kill and bury those, for it must be in that particular flock, not with surroundings or feed. Burn all dead hens of that trouble.

Clean up thoroughly and disinfect with a five per cent solution of carbolic acid all the runs and coops; this is necessary.

Milk is fine for them, sweet or sour, if used in masses of crumbly nature. No doubt the ones with no eggs in them were so deficient because of the disease.

Poultry Editor The Live Stock and Dairy Journal—I have a hen that has a dark red mass of flesh protruding from the vent. What is the cause and remedy.—H. P., Portersville, Cal.

The trouble is eversion of the oviput, caused by too stimulating feed, or by trying to expel very large eggs, mostly seen in old hens. Place the bird in a separate pen, give plain feed, apply carbolic saline slightly to the mass and gently press it back in place with the finger. If the part is soiled, wash first with luke warm water. Lastly, give three drops fluid extract of ergot twice a day.

Poultry Editor The Live Stock and Dairy Journal—Please tell me what to feed a hen that is continually getting lighter, as she weighs only about two pounds when she should be four.—T. O., Merced, Cal.

From the slight description she has the disease called "going light," consumption, for which there is no remedy except what may be obtained from good feed and warmth. Separate her from the others, as the disease is contagious, and feed her well if you wish to experiment, but to kill her will be better and bury deep.

Poultry Editor The Live Stock and Dairy Journal—Some of my hens have worms, sometimes drop some in the runs. I have separated them so what shall I do to cure?—M. E. T., Hayward, Cal.

You did right in separation. Mix in a mash a teaspoonful of powdered pomegranate root to every fifty hens, and if treating a few at a time follow it up with two tablespoonsful of castor oil to each one. Keep separate for a week and notice.

Poultry Editor The Live Stock and Dairy Journal—Two of my pullets have a few swellings under the wings. I feed them the same as the others, but they are getting thinner. What shall I do to remedy in both troubles?—T. S., Tracy, Cal.

They have tuberculosis, very contagious to rest of flock, no cure, kill them, burn with coal oil and bury deep.

Poultry Editor The Live Stock and Dairy Journal—Some of my pullets are gaping very frequently as if wanting more air. I have examined them but can see nothing. Please advise in your next issue.—C. P., Los Gatos, Cal.

They have gapes, caused by small worms. Separate sick from healthy. Clean up and disinfect with a strong disinfectant. Chop very fine two bulbs of garlic, mix in some mash and supply same to ten pullets, then

in next three mashes mix three grains sulphur to each bird.

Poultry Editor The Live Stock and Dairy Journal—Some of my little chicks persist in picking the toes of some of the others, which often kills them. What shall I do? Awaiting your kind reply.—G. L., Riverside, Cal.

If you can pick out the offenders, place them separate. Keep them all busy at picking, scratching, nipping off green tender lettuce, supply scratching material, give a mash of bran, feed meal, and shorts, in which is 3 to 5 per cent of beefscrap and a little fine charcoal, all in a hopper where they may help themselves any time, for if busy they have no time to get curious in looking at toes that appear like worms to them. Keep them working at finding feed.

Poultry Editor The Live Stock and Dairy Journal—I have fifty chicks of two weeks old in a brooder, and they get sweaty at night, they are clean, but do not seem to thrive. Please advise me in next issue. Thanking you for the advice.—C. R., Upland, Cal.

The brooder is too small for the number, or they crowd in one corner, pile on top of each other and so get what is called sweaty, which will stunt them to say the least. Separate them in two or even three lots, give plenty of room with requisite warmth, keep clean, and let them have plenty of exercise.

Poultry Editor The Live Stock and Dairy Journal—What do you consider a good dry mash for young chicks of two weeks old? Also what grains at that age?—N. U. T., Glendale, Cal.

Bran 50 per cent, shorts 15, feed or corn meal 15, oatmeal 15, bone-meal 2, good beefscrap 3, a little ne charcoal, well mixed in low hoppers. All the greens they will eat, and no chick feed in litter about two inches deep. Clean water, grit, warmth, and cleanliness.

For a noted improvement in the egg producing qualities of the flocks of fowls, about the quickest way is to get males from egg strains that you know to be good.

There ought to be one State poultry show supported by an appropriation of the State Legislature of about \$2,000 per year. Then we could have good prizes with a moderate entry fee. Kansas, Nebraska, Missouri, Iowa and many other states have such a show and appropriation each year.

The State Fair comes too early, as the birds that happen to be in the best feather at that time of year win.

We will have it in California before long. Keep it in mind.

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311 ACRES RIVER BOTTOM—Alfalfa and deciduous fruit land. Improvements consist of fine 12-room house, 3 large barns, and other outhouses; fully stocked and equipped; 4 miles from town of 10,000 population. \$135.00 per acre. Easy terms.

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FRED T. MOORE CO.,
202 Nicholas Bldg., Sacramento, Cal.

63 ACRES, out of which 65 are planted in alfalfa, irrigated; no improvements.

153 Acres, out of which 60 are planted in alfalfa, irrigated; no improvements.

56 Acres, all in alfalfa, irrigated.

These lands are situated in the famous Oakley Homestead Tract, two miles from Wheatland, Yuba County. Soil is mostly rich bottom land. Prices range from \$150 to \$165 per acre.

A number of large stock and dairy ranches on hand in Yuba and Sutter Counties. Alfalfa land in 10, 20 and 40 acres and up.

In addition we are sole owners of Hallwood Irrigated Farms, with the best system in the country. Unsold land in this tract especially adapted for rice, which has proven to be a splendid success.

No matter what you want we can please you. State your desire and we will take pleasure in giving you thorough description.

Remember, no trouble for us to answer questions. Write today.

GOLDEN LAND & INVESTMENT CO.,
Marysville, California.

VICTORIA, AUSTRALIA, WANTS SETTLERS—Special inducements offered by State Government, which owns lands, water, railways and free schools. Excellent climate, resembles California; no extreme heat or cold. Small deposit and 3 1/2 years for purchase of lands, adapted to every kind of culture—citrus fruits, apples and pears; wheat, corn, alfalfa, sugar beets; dairying, hog raising, etc. Ample markets. Exceptional opportunities in irrigated districts. Reduced passages for approved settlers. Free particulars from F. T. A. Fricke, Box V, 687 Market Street, San Francisco.

IF YOU WANT A DAIRY RANCH in the famous Coquille Valley, write F. B. Phillips, Coquille, Coos Co., Oregon.

FARMS WANTED. WANTED improved farms and wild lands. Best for quick results. Full particulars and magazine free. Don't pay big commissions. Western Sales Agency, Minneapolis, Minn.

Yuba Ball Tread Tractor

will demonstrate the following at the Sacramento meet, May 7, 8, 9;

Operating whether the soil is rain-soaked, sun-baked or normal.

Knowing no such thing as failure.

Proved these things at Fresno, where the space allotted to it was more completely plowed than any other—though it rained, and rained hard, the entire three days.

The light, sandy loam was like mush in every low spot.

Yet the Yuba Ball Tread did its work—and did it well.

Watch the Herculean Dwarf in operation at Sacramento.

Yuba Ball Tread Tractors will plow, harrow, seed, haul, pump—in fact, do any farm work for which there are facilities.

Write for illustrations and particulars.

YUBA CONSTRUCTION COMPANY

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Marysville, California

NOTES

Henry Wheatley, Salvador Stock Farm, Napa, Cal., reports the sale of one registered Shire stallion and one registered Shire mare to H. C. Hinckley, Yolo County, Cal., and one registered Shire stallion to Thos. Dixon, of Nevada.

G. U. Clark of Kings County, Cal., reports the recent sales of the following registered Holstein Friesians: The bull Merryland Major De Kol to Col. V. W. Shore of Tulare County; Merry Prince Charming, and King of Dinuba, the latter out of a 27 pound dam, to John Benedict; Merryland Legend, to Chas. Church; Max Barnum to P. G. Verhoeven.

Merryland Major De Kol goes to head a small Tulare County purebred herd.

Edgar S. Willard, well known among breeders of registered dairy cattle in California, has been appointed Dairy Superintendent at Preston School of Industry, Ione, California. The school has a very high grade herd of Holsteins supplying dairy products to the population of the institution.

D. F. Conant of Modesto, has had registered the name of his ranch, Rancho Santa Marguerita. Mr. Conant has very effectively solved the problem of putting most of his registered Jerseys in the Register of Merit. The question now arises can a registered ranch be put into a Register of Merit, and if so, how?

X. Carrithers of Tulare, Cal., is keeping sold down close on registered Jersey bulls. In sending in change of copy Mr. Carrithers writes that he has no bulls left over seven months old. This herd is steadily developing along the lines of production, and is of high individual excellence.

Among the new announcements in this issue is that of J. L. Gish, Laws, Cal., owner of Model Herd, of registered Berkshire hogs. This is a long established herd and one noted in its own locality for high excellences. The herd has never been shown at California State Fairs, but carried off most of the ribbons in Nevada last year. In the development of Model Herd, Mr. Gish has made careful selection of breeding stock, with the idea always in mind of producing a hog of quick, large growth, and the weights attained in the herd are of an unusually high average.

JERSEY FUTURITY

There has been no idea set forth by any California live stock organization that has met with such widespread interest as that of the California Jersey Breeders' Futurity, which has been fully explained in previous issues of the Journal.

Jersey breeders all over the country, and even in other countries, are watching results with a great deal of interest, and it seems certain that our California Jersey breeders have set in motion an idea that will eventually result in an immense good to the Jersey breed. The Jersey men are not entirely overlooked here at

home either, and the California Agricultural Society has given their support to the Futurity to the extent of offering a handsome silver cup annually to the winner. The following letter has been received by Secretary J. L. McCarthy of the Society, from Secretary J. E. Thorp of the Jersey Breeders' Association:

Mr. J. L. McCarthy,
California Agricultural Society,
Sacramento, Cal.

Dear Sir:

In behalf of the California Jersey Breeders' Association, I wish to thank the California State Agricultural Society for awarding a silver cup annually for the Jersey Futurity.

Also for their kind consideration of our wishes, relative to the State Fair ground conditions at the last fair.

Yours very truly,
J. E. THORP,
Secretary.

PUBLICATIONS RECEIVED.

Mention of the following publications is made because of their value to readers of the Journal. All bulletins mentioned may be had free from the stations publishing them. Prices of books as shown:

Bulletin 115.—Rations For Fattening Western Yearling Sheep. Agricultural Experiment Station, Columbus, Mo.

Bulletin 114.—Corn Versus Oats, for Work Mules. Agricultural Experiment Station, Columbus, Mo.

Bulletin 243.—The Intradermal Test for Tuberculosis in Cattle and Hogs. Agricultural Experiment Station, Berkeley, Cal.

Bulletin 244.—Utilization of Waste Oranges. Agricultural Experiment Station, Berkeley, Cal.

Register of Merit of Jersey Cattle.—This book contains 578 pages, with portraits of 75 of the greatest cows and bulls of the breed. Is substantially bound in cloth, and should be in the hands of every Jersey breeder and dairyman who buys Jersey bulls from Register of Merit ancestry. Price 25 cents per copy. Published by American Jersey Cattle Club, 324 W. 23d Street, New York City.

POWER COMPANY BUYS REGISTERED SHORTHORN COW

One of the Sacramento Valley power companies bought a registered Shorthorn cow recently, but it can hardly be said that they are going to start a herd with her.

She belonged to G. A. Murphy of Perkins, and while peaceably and lawfully grazing in her pasture she took a notion to exercise the privilege of her kind the world over, to reach through the barbed wire fence and take a bite out of the greener landscape along the roadside.

It so happened that one of the high power wires belonging to the power company had broken and fallen across the barbed wire fence and the valuable cow was electrocuted.

The current played havoc with the fence also, melting nail heads and

cross wires, and at one point where the barbed wire came in contact with a mesh wire fence the solder in the latter was melted.

Forkner Orchard Cultivator



Does more work with less draft and leaves a better surface mulch than any other cultivator made.

It Works Right Up To Your Trees Especially Adapted to Work in California Orchards

Cultivating the entire surface beneath low branches without disturbing boughs or fruit. Write for catalogue and free book "Modern Orchard Tillage."

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Wholesale Distributors

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The Wonder Trip To Sacramento

SAFETY

Through Trains to Marysville, Colusa, Oroville and Chico

Oakland, Antioch and Eastern Railway



DEPOTS

Key Route Ferry, San Francisco
40th and Shafter Avenue, Oakland
3d and I Sts., Sacramento

In sending change of copy for his advertisement, Ed E. Johnson, Turlock, Cal., breeder of registered Duroc Jersey swine, says: "I am having good results from the Journal."

March 12, 1914.

"Enclosed find \$1.00 for which please extend my subscription two years. At the price at which you offer the Journal, and even at a price many times that much, no progressive stockman can afford to get along without it."

March 14, 1914.

DAVID C. VIERRA,
Monterey County, Cal.

"Your Journal is the best of its kind that I have seen in this part of the country."

A. A. NEWBERG,
Washington,
Breeder of Registered Jerseys.

Mrs. Emma Reid, San Jose, Cal., breeder of Houdans, writes in regard to her classified advertisement in the poultry column: "I am getting too many good orders through the Journal to think of dropping my advertisement. Continue it."

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The Live Stock and Dairy Journal,
Sacramento, California.

Enclosed find one dollar, for which send me the Journal for two years.

Name

Address

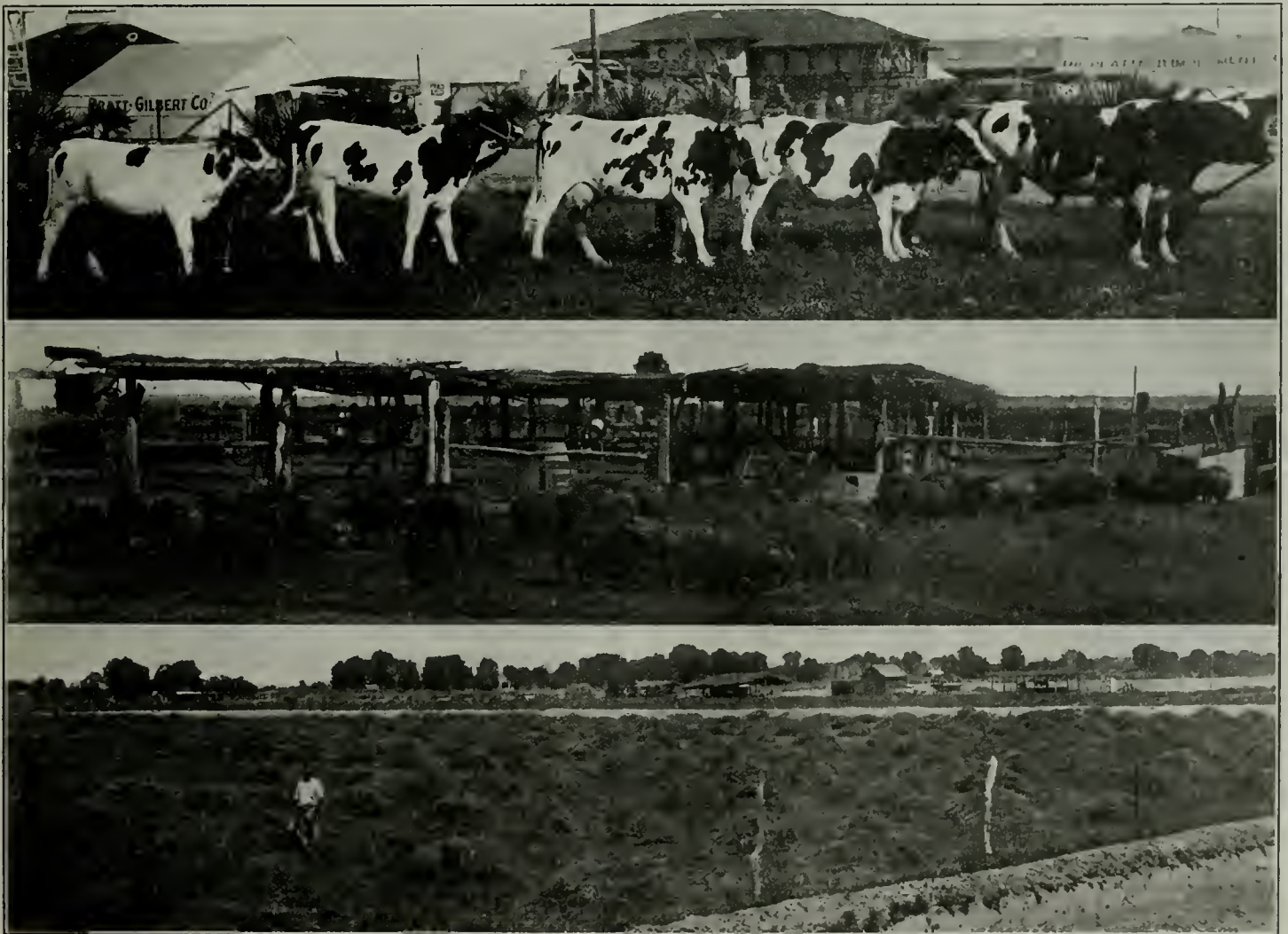
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THE LIVE STOCK and DAIRY JOURNAL

FOR BREEDER, STOCKMAN, DAIRYMAN, POULTRYMAN and FARMER

THIRTEENTH YEAR

MAY, 1914



SOME OF THE RESULTS OF IRRIGATION IN ARIZONA.
Swine and Alfalfa in Yuma District Are Shown in Two Lower Views.
Upper View—Herd of Prize Winning Registered Holstein-Friesians.
Owned by J. Stanley Howard, Salt River Valley.

AGRICULTURAL PUBLISHING COMPANY, SACRAMENTO, CAL.

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An Illustrated Monthly Publication for the Advancement of the Live Stock, Dairy and Poultry Industries of the Pacific Coast.

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Volume XIII. No. 5

SILAGE FOR BEEF CATTLE AND SHEEP

Many of the Experiment Stations in the Middle West are conducting feeding experiments to determine the value of corn silage in the feeding of market cattle and sheep. The Journal gave a summary in a previous issue of the highly satisfactory results shown in the feeding experiment carried on with sheep at the Idaho station. The latest report to reach us is that of the Experiment Station at Lafayette, Indiana. During the winter feeding of cattle in this experiment it was found that cattle receiving a ration of shelled corn and cottonseed meal, and with clover hay alone for roughage, returned a profit, including pork production, of \$10.98 per head. Cattle fed on the same grain and with clover hay for roughage showed a profit.

Cattle fed on the same grain and with corn silage alone for roughage returned a profit of \$15.41 per head. Cattle fed on the same grain and using both clover hay and corn silage returned a profit of \$18.50 per head. It will be seen that by adding corn silage to the clover hay roughage in this experiment an additional profit of \$7.52 per head was secured. This would be a big total item in the feeding of a large number of cattle, and seems to indicate that our feeders are overlooking a source of immense profit when corn silage is not given proper place in the ration. The experiments in feeding sheep on a ration containing corn silage were also very satisfactory at Lafayette.

THE BADGE OF IGNORANCE

The production of better farm horses is a matter of education—nothing else. There no doubt are instances where excuse may be found for the existence of scrubs, but they are not numerous. The general statement that the scrub is an evidence of ignorance on the part of his breeder is true more times than it is not. Who wants to wear a badge of ignorance? Thousands persist in doing it when they drive their mares to unpedigreed, unsound, scrub stallions. Nine times out of ten the well-bred well-made, well-kept stallion will throw a colt worth his feed or more no matter

what the mare. Our horses have improved wonderfully in the last twenty-five years, and the gains that will be made in the next generation will be many times greater—for the simple reason that it is becoming more and more a matter of business sense to breed to the best horse available. A stallion that will put \$50 on a colt for a ten dollar bill extra on the service fee is going to have all the patronage he can handle. The day of the scrub stallion is drawing to a close. When it is gone none will wish it recalled.

HORSEMAN.

The above communication was published in The National Stockman and Farmer, and Horseman has expressed a whole volume in his short letter. What he says about the scrub stallion is a truth that has been earnestly advocated repeatedly in the Journal. But the "Badge of Ignorance" is not worn alone by mare owners. It decorates today thousands of our dairymen, hog raisers, beef cattle growers and sheepmen. Few of us ever get to be real wise on more than one or two subjects. The span of life is too short for any one man to learn all there is to know about even one breed of animals, but there are records established which are really the story of the failures and successes of other men of several generations, and the wise man gathers all the knowledge he can from these past experiences and adds to this the experiences of his own life work. Take the herd book of any breed of any kind of farm animal, look through it carefully and it reveals not only the achievements of some men in further adding to the usefulness of the breed by producing animals of superior merit, but it also reveals the failure of certain matings, whereby individuals below the standard were produced, and there are many cases where families of the breed have practically disappeared, and their blood almost eliminated from the present day animals of the breed. The history of any breed, and the standing of its present day families is, of course, of the most vital importance to the breeder of purebreds. It is also of very great importance to the owner of grade stock who buys purebred sires. There are many men today who regularly buy purebred sires, and who have very little real knowledge of the breed to aid them in making selection. As a rule this may safely be left to the breeder himself, for the breeding business in general is made up of men of very high personal integrity. But the man who wears the real gold medal "Badge of Ignorance" is the man who does not believe in the purebred idea at all. The fact that he does not believe in it is abundant proof that he has absolutely no knowledge of the fundamental principles which are the foundation of constructive breeding. All of us know many such men. We see them making selection of a dairy bull, for example. Possibly they are offered a choice of several bulls. The final selection will often be decided because one is bigger than the others, because he is more white than black, or is light fawn rather than near black, or because he is solid color instead of broken. Not a single question is asked as to the production of his dam, no inquiry is made as to the breeding of his sire, and yet that bull is supposed to go into a herd of grade cows and get females that will profitably yield milk and butter fat. In the whole selection of the bull there has been absolutely no investigation made as to the productive dairy quality of his blood, and his selection has been made upon minor points which have very little, if any, relation to the production of milk and butter-fat. We recently stood in a group of dairymen beside a public sales ring where a herd of registered dairy cattle were being sold. At the moment the auctioneer was offering a handsome bull calf that we happened to know was

out of a cow with a very creditable official record, and backed on both sides by blood quite above the ordinary. Bidding finally brought the offer up to \$110 and seemed to stop there. We remarked that it was bargain day when a bull like that could be bought for \$110. We were very promptly rebuked by a dairyman at our elbow who informed us that he had just bought from one of his neighbors a better calf for \$50. After complimenting him on his bargain we inquired as to breeding of his calf. There was no information forthcoming. The calf was said to be registered, but his buyer had never inquired as to whether his dam was a producer, whether his sire was of producing blood, and knew absolutely nothing of any of the blood represented in the bull that was to head his dairy herd. Furthermore, he knew absolutely nothing of the \$110 bull in the sales ring, did not know that the bull was out of a tested dam, did not know that he was of a very worthy family of the particular breed, and the only thing he was positive about was that he had bought a better calf for \$50. The attitude of this man is only too often encountered among our dairymen. It takes a long time to drive home the fact that the Babcock tester and a pair of scales are the corner-stone upon which the structure of profitable dairying is based.

DEATH CALLS

SECRETARY MCCARTHY

Secretary J. L. McCarthy of California State Board of Agriculture died suddenly at his home in Sacramento, on April 13. Mr. McCarthy was one of the best known men on the coast among harness horse men, and during his term as Secretary of the Agricultural Society made a host of friends among breeders of all kinds of stock. Many important changes and improvements of our State Fair were put into effect under his management, and his loss will be keenly felt by stockmen who knew his well.

TRACTOR DEMONSTRATION

The tractor demonstration to be held at Sacramento May 7-8-9 will be attended by an immense crowd if present indications are fulfilled. Besides the great tractors, there will be a demonstration of a large number of plows, barrows, graders, and other kinds of machinery for cultivation and harvest. All of the electric roads leading into Sacramento have made special rates, and the steam roads have made special rates in the State of California north of Bakersfield and San Luis Obispo.

SWINE BREEDERS SHOULD

JOIN ASSOCIATION

The swine breeding and growing industry of California is rapidly increasing in volume, and new conditions and emergencies are constantly arising. There can be no proper safeguarding of the interests of the swine industry unless all persons, or a large percentage of them at least, who are engaged therein will co-operate in an organization which is of sufficient strength to get results. California Swine Breeders' Association was formed some time ago, but its membership is not one-tenth as large as it should be. The membership fee is purely nominal, only one dollar per year, and there is no hog man in the State, even if he has only one old sow, that could not get more than his dollar's worth from the effects of the work of a good big, live association that is out to promote the best interests of the hog grower. J. I. Thompson, State Farm, Davis, Cal., is secretary of the association, and we especially advise every hog owner who reads the Journal to send name and address and membership fee to Professor Thompson at once.

INSURANCE

Nowadays it is accepted as a matter of fact that a man should, as a plain matter of business if for no other reason, carry some life insurance on himself, fire insurance on his buildings, machinery and implements, and on his harvested crops, and there are insurance companies designed to meet almost any hazard of loss to which mankind is subject. There is even an insurance against falling prices in all live stock products, yet it is not a company, it is not represented by a policy, and it is available to every live stock grower at a very low initial cost. The insurance against low prices of live stock products is the purebred sire. When prices are high a great many scrub and unworthy animals escape detection because the good members of the herd or flock produce well enough to maintain an average of profit, but when prices fall, then is the light thrown upon the non-producer—sometimes. Men may blame the tariff for the low price of wool, ditto butter, they may see ruination in the threatened invasion of foreign meat, and nothing but gloom on the draft horse horizon, but the sum total of loss of profit which may be traced to these causes is as thirty cents when compared to the annual losses due to the continued use of the scrub sire. The man who started in to breed up a few years ago and now has a herd or flock of high-grade animals will certainly not make as large profits on low prices, but he will still be making profit when prices reach a level that force the scrub animal owner out of business. An extra hundred dollars invested in purebred sire blood now is the best kind of insurance against the loss of thousands of dollars in profits within a comparatively few years to come.

DRAFT HORSE OUTLOOK

The draft horse situation has narrowed down somewhat because of more general use of tractors, but the process has been largely the elimination of the unfit. The presence of a very large percentage of inefficient horses has made it possible for the tractor to make headway faster than it would otherwise have done. The draft horse has not been rendered useless by the development of the tractor or but the economical side of the question has reached a point where only the fittest survive among draft horses.

Here in the West where there are more economical than the use of even cultivation we have quite an inferior average lot of draft horses and a very superior variety of types of tractors. It has been demonstrated time and again that the use of tractors under a great variety of conditions is much more economical than the use of even the best types of draft horses. In such instances the draft horse has been displaced for all time. There are also many instances where the draft horse is greatly superior in efficiency to the tractor, and it is to fit these conditions that our draft horses must be bred if the industry is to occupy its rightful place in our agriculture.

At the present time all indications point toward a steady and profitable demand for a large number of drafters of the best quality. In their production and sale they offer to many farms a source of substantial profit, and it should be the business of all draft horse men who have considerable sums of money invested in draft stock, and whose plans are shaped to either the breeding or manipulation of draft animals, to co-operate in a definite movement to determine the actual position of the draft horse today, and to develop the horse to meet present day requirements.

THE SWINE HERD

OAK GROVE BERKSHIRES COMING ON NICELY

The Berkshires at Oak Grove Dairy Farm, Woodland, Cal., are making things lively around their home place just now. There are some fine families of little Berks arriving frequently, but their stay at Oak Grove is usually a short one, as orders for breeding stock have accumulated so rapidly during the past few months that pigs just barely get past weaning age before being sent out.

The chief point of interest at Oak Grove right now is the new herd boar, Improver B. This boar was a winner and champion at many of the leading shows in the East, and now at 18 months of age is without doubt one of the greatest specimens of the breed ever brought to the coast. He has already attained an immense size, carries his weight well, and is altogether a remarkable individual. He seems to have everything that is desirable in a Berkshire hog. Great length, depth and a wide, deep fleshed back with just the proper arch. From ham to shoulder he is a straight line, carries out well behind, and with it all has an unusual amount of quality and distinctive type.

There are a lot of exceptionally good young sows now coming on in Oak Grove herd, and there will be quite a selection to be had from among them for the big show.

Oak Grove has a remarkable group of herd boars in Artful Masterpiece, Perry's Combination, Iowana Majesty and Improver B. Most of the young pigs now arriving are sired by the first named three. Iowana Majesty is getting some very choice ones among the lot, while those from the other two boars are fully up to the usual high standard of their get.

Although the Oak Grove herd is steadily increasing in breeding capacity, it has not been able to supply all of the demands for breeding stock made upon it during the season, and orders for stock are coming in even more rapidly at the present time.

BREEDERS' ASSOCIATION LAYS OUT BROAD PROGRAM

The program mapped out by the California Live Stock Breeders' Association is a comprehensive one and merits the support of all animal owners in the State. At the beginning the activities of the Association will be along the lines listed below:

The Secretary will receive advice and suggestions from the entire membership, and will be guided by the Board of Directors before taking final action on any of these suggestions.

Other things will come up for consideration that will result in good to the live stock, dairy and poultry industries of California.

1. Preventing adverse legislation of all kinds and securing needed legislation.

2. Regulating the quality of purebred stock imported for sale.

3. Amending dairy laws to obtain uniformity and more sensible regulation, as was unsuccessfully attempted last Legislature.

4. Securing uniform live stock laws in the counties of the State, regarding estrays, impounding live stock, muzzling dogs—to prevent sheep killing, etc.

5. Gathering and publishing authentic live stock statistics.

6. Securing a complete list of live stock breeders so as to promote the sale and exchange of good stock.

7. Getting every breeder a member of the association.

8. Promoting the registration of purebred animals.

9. Getting better classification of live stock at district and county fairs.

10. Assisting the State Board of Agriculture in many things connected with its work.

11. Securing better support for State departments connected with live stock.

12. Having railroads, chambers of Commerce and other publicity agents give due weight to live stock matters, now frequently ignored, to the hurt of the industry and the misfortune of state, county and homeseeker.

13. Getting banks to loan money on live stock, as is done elsewhere, to their own advantage and the proper development of their communities.

14. Getting a more effective enforcement and amendment if necessary to stallion law.

15. Developing better methods of marketing commercial stock—whether it be draft horses, beef cattle, sheep, swine or what not.

16. Securing live stock quarantine station, badly needed for the Exposition, and a help to importers for all time.

17. Holding an annual meeting for all stockmen at which vital subjects could be discussed and the best authorities on stock matter secured.

18. Securing a recognition of live stock as one of the resources of California as applied to exhibits.

19. Providing entertainment and extending welcome to the membership of the American National Live Stock Association at its 1915 meeting.

LIVE STOCK A GREAT FACTOR

Comparatively few people in America recognize the tremendous importance of our agriculture to the welfare and prosperity of the nation, while only a very much smaller number recognize the vast importance of live stock to our agriculture.

Agriculture is a creative industry. From its annual crops of grains, fruits and live stock there pours into the world's treasury great floods of new wealth which never before existed—wealth which man never before had.

The merchant, the banker and the professional man does not create wealth, he simply handles it. The farmer creates it and as shown by the following statistics, live stock is his most important means of growing money out of the ground.

What the Department of Live Stock Represents.

United States Department of Agriculture figures:

United States farm products, 1913	\$10,062,000,000
Live Stock—	
Cattle, horses, sheep, swine	\$3,650,000,000
Dairy Products	814,000,000
Eggs and Fowls	578,000,000
	\$5,042,000,000

Other Farm Products—
Corn, cotton, wheat, hay, oats, potatoes, tobacco, barley, wool, sweet potatoes, sugar beets, cane sugar, rye, flaxseed, hops, buckwheat \$5,020,000,000

What the Department of Live Stock Represents in California.

California Development Board figures.

California farm products, 1913	\$371,770,668
Live Stock—	
Cattle, horses, sheep, swine	77,584,300
Dairy products	34,950,552
Eggs and fowls	18,205,896
	\$130,740,748

Other Farm Products—
Corn, Cotton, wheat, hay, oats, potatoes, barley, rice, hops, sugar beets, broom corn, etc. \$126,516,800

Orchard and vineyard products including the wine industry \$114,513,120
Total minerals including 54,000,000
Petroleum 46,000,000

One hundred and thirty-one million dollars each year added to the wealth of California by her farmers! by far the largest revenue derived by the State from any source and every cent of it created as new wealth last year by the farmer!

And yet! with all the plans which have been laid for the exhibition of the resources of California before the world's millions, with all the money which has been and is being expended for this purpose, there is not one cent being expended or even available for

Poland Chinas Iowa Wonder, son of A Wonder, heads herd. His daughters are bred to a stylish son of Banker's Model. These Pigs sell quickly, and it would be well to place orders for Spring Pigs now.
N. HAUCK, Alton, Humboldt Co., Calif.

BERKSHIRES REGISTERED BOARS OF ALL AGES.

Two especially fine Boars ready for immediate service, at a sacrifice price. Also White Leghorn Hatching Eggs for sale.
RICCOMI BROS., Mountain View, Cal.

DUROC SWINE Choice young stock, pairs and trios, no kin. Blood first prize winners of 1913. One yearling boar, prize taker. Prices right. J. K. FRASER, Denair, Cal.

DUROCS Out of first prize winners State Fair. Boars ready for service. Choice gilts. Pigs, either sex, \$15.
ED E. JOHNSON, TURLOCK, CAL.

Glenview Ranch

LARGE TYPE, REGISTERED

POLAND CHINAS

Have a fine, vigorous lot of Baby Pigs of both sexes. Quality and price right. Order early as supply is limited.

CHAS. R. HANNA, R. 3, Riverside, Cal.

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Prize Winners at Arizona State Fair. Stock of Nearly All Ages For Sale.

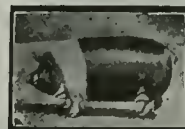
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I offer young stock of both sexes out of prize winning stock. Call and see my herd or write for prices.

A. M. HENRY, FARMINGTON, CAL.

Hampshire Swine



My Hampshire Hogs have been selected with great care, and my herd is one of the oldest in America. Herd headed by El Salvador, winner of two silver cups in the strongest competition of the Middle West. Fifty young sows and boars for sale. This breed has won over all others in the dressed carcass contest for several years at the International Fat Stock Show.

Frank Reed Sanders

Salt River Valley, Mesa, Ariz.



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Of the swine journal read by hog breeders of every state. Valuable articles on care and management of swine written by practical hog men. The only paper published exclusively for the Chester White, O. I. C., breed of swine, being its official paper. A profitable investment for any hog raiser; 50c per year or three years \$1.

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For Your Hogs DIGESTER TANKAGE

Digester Tankage develops bone and muscle in your pigs and **MAKES THEM GROW**. It fortifies and strengthens the system against attacks of disease germs so that Tankage-fed swine seldom suffer from epidemics. It imparts such fit and finish to "show" swine and market hogs that it never fails to develop blue ribbon winners in the show ring and toppers in the market.

As a balancer in making up the ideal ration it is without a rival.

For particulars and prices, address

Western Meat Company

ANIMAL FOOD DEPT.

SAN FRANCISCO, CALIF.

Oak Grove Berkshires

Bred For Quality

We have constantly developed our Berkshires along the lines best calculated to produce hogs of large growth and early maturity, and at the same time maintaining a high degree of Berkshire quality.

Our brood sows are of good type, large and prolific, and have been carefully selected from lines in which these qualities are outstanding characteristics.

Our herd boars are second to none in the West, and have demonstrated their superior quality repeatedly in the show ring. Among them are ARTFUL MASTERPIECE, twice Grand Champion at California State Fair; IMPROVER B, an undefeated young boar that was first at American Royal; IOWANA MAJESTY, that stood second to IMPROVER B at American Royal, and BERRY'S COMBINATION, an outstanding boar and a proven getter of ones.

We have a fine lot of weanling pigs of both sexes coming on, and can now fill orders for single pigs or unrelated trios.

Our prices are as low as is consistent with the quality we maintain, and scores of satisfied customers are the best proof that we deliver the proper goods at a proper price.

WE HAVE AN ILLUSTRATED CATALOGUE. WRITE FOR IT AND TELL US AT THE SAME TIME JUST WHAT STOCK YOU NEED.

OAK GROVE DAIRY FARM

Woodland, California

Reference: First National Bank of Woodland.

Berkshires—Guernseys

OUR BERKSHIRES are the finest in the State. At the last State Fair we entered in fourteen classes and won ten firsts.

FIVE HERD BOARS IN THE HERD. Stock of all ages for sale.

We offer for sale Bull Calves of A. R. breeding on both sides. Some of the younger ones are by DON ADONIS of LINDA VISTA, whose dam, two grand-dams and two great-grand-dams have an average record of 714 pounds butter-fat in one year.

GRAPE WILD FARM

A. B. HUMPHREY, Owner.

MAYHEWS, CAL.

Farm Located Eight Miles From Sacramento on Folsom Road.

BOARS - SOWS - PIGS



I have on hand a limited number of young Berkshire boars, a few gels, and some young pigs of both sexes. These are especially choice and of good breeding. Some are sired by RIVAL'S CRUSADER and LORD DUKE, and one or two bred here are by KENNETT LEE JR. Order early as the supply is limited.

G. A. MURPHY, Box 300, Perkins, Cal.



DEEMSTER'S PRINCESS, 30966
635 Pounds Breeding Condition.

To get a son or daughter of this great Berkshire Sow. We have them sired by Breed's Model (165859) a sire of State Fair Winners.

J. L. GISH, Laws, California

It Will Pay

an exhibition of California live stock at the Panama-Pacific International Exposition.

Surely an industry which creates one hundred and thirty-one million dollars of new wealth each year, and which dominates every other creative industry is worth of some place in the great Exposition.

TOO MUCH "CALORIE"

Merely because the public is unprepared to grasp the full significance of the word calorie as applied to food products, it is quite popular nowadays to emphasize the value of food products solely on the basis of their calorie value (heat value). Starch and sugar have almost the heat value of proteins. It is therefore easily possible for food products composed of starch or sugar and fat to equal or even surpass protein in heat value, and still not contain any protein, a necessary component of foods.

H. P. FISHBURN.

Idaho Experiment Station.

IDAHO FAVORITE

Idaho Favorite (269208), a 3-year-old Duroc-Jersey sow bred and owned by the University of Idaho, farrowed a litter of 18 pigs on March 8th. This is Idaho Favorite's fifth litter and her average litter, counting all five, is 13 2-5 pigs. Not alone in number but in quality as well does this animal excel as a brood sow. In September, 1913, several of her offspring were in the money in a strong Duroc-Jersey show at the Spokane Interstate Fair, and one of her pigs was grand champion Duroc-Jersey female.

E. J. IDDINGS.

MULEFOOT HOG ASSOCIATION MEETS

At the recent annual meeting of the American Mulefoot Hog Record Association, held in Columbus, Ohio, John H. Dunlap of Williamsport, Ohio, was elected President; Prof. C. W. Burkett of New York was elected Vice-President, and R. E. Pfeiffer, Secretary.

Applications for membership are coming in from all over the United States to the Association, and the future seems very bright for this Association, whose management is composed of men of experience and ability. Mr. Dunlap is the largest breeder of this hog, and has spent a great deal of time and money bringing them before the people through the farm press and by exhibiting them at the state fairs. He was the first breeder to advertise the Mulefoot extensively, and has made sales in every state and in foreign countries.

Mr. Dunlap's Position on the Live Stock Board of Panama-Pacific Exposition assures this great breed a place at the 1915 show, and will bring the merits of the breed before all the world.

Two herd books were published by this Association during the past year. They are both free to new members who join while the supply lasts. The price to non-members is \$2.50 each.

FARM NAME REGISTERED

G. A. Murphy of Perkins, Cal., has registered the name of his farm, Sunnyside Stock Farm, thus giving him exclusive right to use that name in California. It suggests the thought that all breeders who have named their farms should at once register them, as there is no question but that a name has a certain value to a farm, and as it is more than likely that large numbers of farms will be named within the next few years, the registration of the name is the only way in which confusing duplications of names may be avoided.

WHITE WASH

Whitewash is the cheapest of all paints, and for certain purposes it is the best, according to Farmers' Bulletin 474. Lime, which is the basis of whitewash, makes a very sanitary coating, and is probably to be preferred for cellars and the interior of stables and other outbuildings. (The following directions for making whitewash are taken from "White Paints and Painting Materials," by W. G. Scott.)

Ordinary Whitewash—This is made by slaking about 10 pounds of quicklime with 2 gallons of water.

The lime is placed in a pail and the water poured over it, after which the pail is covered with an old piece of carpet or cloth and allowed to stand for about an hour. With an insufficient amount of water the lime is "scorched" and not all converted into hydrate; on the other hand, too much water retards the slaking by lowering the heat.

"Scorched" lime is generally lumpy and transparent, hence the use of the proper amount of water for slaking and an after addition of water to bring it to a brush consistency.

Factory Whitewash (Interiors)—For walls, ceilings, posts, etc.

(1) Sixty-two pounds (1 bushel) quicklime, slake with 15 gallons water. Keep barrel covered until steam ceases to rise. Stir occasionally to prevent scorching.

(2) Two and one-half pounds rye flour, beat up in ½ gallon of cold water, then add 2 gallons of boiling water.

(3) Two and one-half pounds common rock salt, dissolved in 2½ gallons of hot water.

Mix (2) and (3), then pour into (1) and stir until all is well mixed.

This is the whitewash used in the large implement factories and recommended by the insurance companies. The above formula gives a product of perfect brush consistency.

Weatherproof Whitewash (Exteriors)—For buildings, fences, etc.

(1) Sixty-two pounds (1 bushel) quicklime, slake with 12 gallons of hot water.

(2) Two pounds common table salt, 1 pound sulphate of zinc, dissolved in 2 gallons of boiling water.

(3) Two gallons skimmed milk.

Pour (2) into (1), then add the milk (3) and mix thoroughly.

Lighthouse Whitewash—(1) Sixty-two pounds (1 bushel) quicklime, slake with 12 gallons of hot water.

(2) Twelve pounds rock salt, dissolve in 6 gallons of boiling water.

(3) Six pounds Portland cement.

Pour (2) into (1) and then add (3).

Note—Alum added to a lime whitewash prevents it rubbing off. An ounce to the gallon is sufficient.

Flour paste answers the same purpose, but needs zinc sulphate as a preservative.

Molasses renders the lime more soluble and causes it to penetrate the wood or plaster surface; a pint of molasses to 5 gallons of white wash is sufficient.

Silicate of soda solution (about 35° Baumé) in the proportion of 1 to 10 of white wash produces a fireproof cement.

A pound of cheap bar soap dissolved in a gallon of boiling water and added to about 5 gallons of thick whitewash will give it a gloss like oil paint.

PURE GOLD STOCK FARM

Breeders of BERKSHIRE HOGS
HOLSTEIN-FRIESIAN CATTLE

Offers for sale a few Choice Boars of breeding age, and a number of Boar Pigs containing the blood of Masterpiece and Robinhood. Prices, \$25 to \$75. Also one choice Yearling Bull of good breeding.

MARKOFER & LATTI, Elk Grove, Cal.

An old receipt for whitewash, issued by the Lighthouse Board of the Treasury Department, said to be very good for outdoor exposure, is as follows:

Slake half a bushel of unslaked lime with boiling water, keeping it covered during the process. Strain it and add a peck of salt, dissolved in warm water; three pounds of ground rice put in boiling water and boiled to a thin paste; half a pound of powdered Spanish whiting and a pound of clear glue, dissolved in warm water; mix these well together and let the mixture stand for several days. Keep the wash thus

prepared in a kettle or portable furnace; and when used, put it on as hot as possible with painters' or whitewash brushes.

The washes which contain milk, flour or glue are not to be advised for use in damp interior places, owing to danger of decomposition of the organic matter. For such locations it is better to use one of the formulae containing none of these ingredients. Whitewash is applied with a broad whitewash brush, and is spread lightly over the surface, no attempt being made to brush it in as is the case with an oil paint.

FOR THE FUTURE GOOD

By I. D. Graham, Assistant Chief Live Stock Department, P. P. I. E.

In the great Department of Live Stock at the Panama-Pacific International Exposition the showing for the prize money is naturally the culminating point, but its other features are important.

The gigantic Exposition is a record of cotemporary accomplishment—a showing of what man is doing and not what he has done—and nothing will be reviewed for award in any department that does not stand for present accomplishment or future progress. It is history in the making rather than history in the recording.

In conformity with this idea and in the realization that there now lies open the greatest field for the expansion of the live stock industry that yet remains on earth, and in the further realization that the vast lands of the coast and mountain regions, of Latin America, the Orient and the Pacific Islands are eagerly waiting the opening of the Exposition in order that they may be supplied with modern types of domestic animals, Chief D. O. Lively has so planned the Department of Live Stock that it will focus the interest of all visitors from all lands and not merely that of the man who has his eyes on the prize money.

The exhibits in the Department of Live Stock will be shown in two grand divisions:

1. Competition for premiums which will be given on September 27, 1915, and end with the Exposition. In this competition there will be distributed \$175,000 in prize money offered by the Exposition and approximately \$75,000 additional offered by the various breed record associations and other interests. Thus making a grand total of about \$250,000 to be distributed as prize money from all sources.

2. Flocks, herds and studs of all the important breeds of domestic animals and birds will be maintained on the grounds of the Exposition during its entire period from February 20th to December 4th, not in competition for prizes, but as a continuous educational exhibit selected by competent authority as being the best of their several kinds and each typical of its breed. Animals and birds from these view herds and flocks may be sold and their places taken by others so that the view herd or flock will remain intact, or they may enter in the competition for premiums in the fall, though not required to do so.

As more important problems will be solved by the economic production of live stock than in any other manner, the utility features of the Exposition will be its strongest points. Not only is the present human food supply at stake, but the fertility of the soil, upon which rests the very existence of our agriculture, is dependent upon our live stock industry.

There is only one place on earth where the American hog can be found and he has not yet occupied all of his own territory. It has been demonstrated that the Pacific Coast and intermountain region of the West is the hog's happy habitat, but just which type of hog is best adapted to the conditions to be found here has not yet been developed, and the same is true of sheep.

Can market cattle be profitably raised away from the corn belt?—is another problem upon which much depends, and in the solution of all these, great progress will be made by the exhibits of finished animals in the car lot classes at the Panama-Pacific International Exposition.

No previous exposition has offered prizes for both the lard and the bacon types of market hogs and none has offered prizes as these for any car lot classes, and this offering of prize money will doubtless induce such an object lesson on the feed supply as the world has never seen.

The prizes offered are as follows:

PRIZES, CLASSIFICATION, CARLOT DIVISION—SWINE

Swine shown in carlots not eligible in pens or single classes.

		LARD TYPE (Not eligible in classes for Bacon Type.)					
Section.		1st	2d	3d	4th	5th	6th
1. Barrows or Sows, 50 head, 350 lbs. or over.....		\$100	75	50	25	HC	C
2. Barrows or Sows, 50 head, 250 lbs. and under 350 lbs.....		100	75	50	25	HC	C
3. Barrows or Sows, 50 head, 200 lbs. and under 250 lbs.....		100	75	50	25	HC	C
4. Barrows or Sows, 50 head, 150 lbs. and under 200 lbs.....		100	75	50	25	HC	C

		CHAMPIONS (Competition limited to First Prize lots.)					
5. Barrows or Sows, 50 head, 250 lbs. or over.....							\$100
6. Barrows or Sows, 50 head, under 250 pounds.....							100

		GRAND CHAMPION (Competition limited to Champions.)					
7. Best car, lard type swine, any weight.....							\$200

		BACON TYPE (Not eligible in classes for Lard Type.)					
Section.		1st	2d	3d	4th	5th	6th
8. Barrows or Sows, 50 head, 350 lbs. or over.....		\$100	75	50	25	HC	C
9. Barrows or Sows, 50 head, 250 lbs. and under 350 lbs.....		100	75	50	25	HC	C
10. Barrows or Sows, 50 head, 200 lbs. and under 250 lbs.....		100	75	50	25	HC	C
11. Barrows or Sows, 50 head, 150 lbs. and under 200 lbs.....		100	75	50	25	HC	C

		CHAMPIONS (Competition limited to First Prize lots.)					
12. Barrows or Sows, 50 head, 250 lbs. or over.....							\$100
13. Barrows or Sows, 50 head, under 250 pounds.....							100

		GRAND CHAMPION (Competition limited to Champions.)					
14. Best car, bacon type, any weight.....							\$200

		PRIZES, CLASSIFICATION, CARLOT DIVISION—SHEEP					
		Sheep shown in Carlot Division not eligible in pens or single classes.					
Section.		1st	2d	3d	4th	5th	6th
1. Wethers, not less than 50 head, 1 year old and under 2.....		\$100	75	50	25	HC	C
2. Ewes, not less than 50 head, 1 year old and under 2.....		100	75	50	25	HC	C
3. Lambs, not less than 50 head.....		100	75	50	25	HC	C

		CHAMPIONS. (Competition limited to First Prize lots.)					
4. Ewes or Wethers, 1 year old and under 2.....							\$150
5. Lambs.....							150

		GRAND CHAMPION (Competition limited to Champions.)					
6. Best car sheep, any age.....							\$200

		PRIZES, CLASSIFICATION, CARLOT DIVISION—CATTLE					
		Cows, Spayed or Martin Heifers or Steers shown in carlots are not eligible in single classes.					
Section.		1st	2d	3d	4th	5th	6th
1. Steers, 15 head 3 years old or over.....		\$200	150	100	75	HC	C
2. Steers, 15 head, 2 years and under 3.....		200	150	100	75	HC	C
3. Steers, 15 head, 1 year and under 2.....		200	150	100	75	HC	C
4. Heifers, 20 head, Spayed or Martin, any age.....		200	150	100	75	HC	C
5. Heifers or Cows, 20 head open, any age.....		200	150	100	75	HC	C

		CHAMPIONS (Competition limited to First Prize lots.)					
7. Best carlot Steers, any age.....							\$200
8. Best carlot Females, any age.....							200

		GRAND CHAMPION (Competition limited to Champions.)					
9. Best carlot fat cattle, any age, either sex.....							\$300



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A Natural Product that Contains
16.4% Protein, all Digestible

Brings quick results,
Makes hens lay more eggs,
Increases butter fat in milk,
Makes hogs fat with clean flesh.

Free Sample and a copy of our booklet containing valuable information on the subject of "Successful Feeding" sent gladly on request. Write to-day.

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OHIO IMPROVED CHESTER

PIGS!

PIGS!

PIGS!

AFTER MAY 10TH I shall be ready to deliver pigs of both sexes, immunized against Hog Cholera by the combination method, administered by a graduate veterinarian.

I have only a limited number of pigs for sale, so it would be advisable to place orders early.

My herd has supplied the foundation stock for over forty herds on the coast.

C. B. CUNNINGHAM

MILLS, SACRAMENTO COUNTY, CALIFORNIA.

Red Duroc Hogs Best Bred Stock Now In California

YOUNG STOCK AND SERVICE BOARS AND SOWS FOR SALE.

All Registered Purebreds, and from such sires as Wonder and Klondike. We are located in the Imperial Valley, and are here to supply California, Oregon and Arizona breeders. Write for prices and pedigrees to

MOORE BROS., El Centro, Imperial County, California
Box 202.

Tamworths

The Celebrated Block and Bacon Hog. Especially adapted to California Climate. Boars, Sows and Young Stock for sale. Prices Right.

COTTLE & HOBSON COMPANY
AMSTERDAM, CAL.

REGISTERED

POLAND CHINA SWINE

PRIZE WINNERS

Finest Stock in the State from \$30 up

I have for sale a few very fine Young Boars sired by Gold Coin, Master Banker and Wonderful Victor. There is no better blood in the world.

M. BASSETT, Breeder

HANFORD, CAL.

POLAND CHINA SWINE

I have for sale pigs of both sexes sired by my boar, Great Prospect (57949) out of sows sired by A. Wonder. For prices write or call.

BROWNING STOCK FARM, WOODLAND, CALIFORNIA.
W. H. BROWNING, Prop.

REGISTERED, PUREBRED

POLAND-CHINA SWINE



Herd headed by Designer (160363), champion boar at Oregon State Fair, 1911. Seven champion crosses close up in pedigree. Best herd hog I have seen in West. I have sows as well bred as Designer, with six and seven champion crosses close up. All farrow large litters.

I have not had hog cholera in my herd for thirty years. A lot of fall pigs to sell at \$20 to \$30. (Registry free to purchaser.)

S. F. WILLIAMS

CHICO

CALIFORNIA

THE DAIRY

The Cost of Raising a Dairy Cow

According to investigators in the department, the average net cost of raising a dairy heifer 1 year old on a Wisconsin farm is \$39.52, and a 2 year heifer \$61.41. These figures are applicable to other dairy districts in the north and East where land and feed values are similar to those in Wisconsin. They are based on the

data obtained from raising 117 calves from birth to the time they entered the dairy herd.

There are in the United States over 21,000,000 dairy cows. These figures give some idea of the importance of this economic problem to the country as a whole, for these cows must be replaced every few years. The cost of the production of these heifers is a large item in keeping down the profits of the dairymen.

Bulletin No. 49, "The Cost of Raising a Dairy Cows," contains numerous tables and several illustrations of the Jersey calves from which the items of cost were obtained.

The most important item was the cost of the food, which was estimated at market value and amounted to nearly two-thirds of the total net cost of the heifer, while labor formed 12½ per cent of the cost.

Figures for the average net cost of the 1-year-old heifer are as follows:

Feed	\$24.67
Labor	4.45
Other costs	6.36

Total

\$35.48

To this should be added the initial value of the calf, which was estimated to be \$7.04, making a total cost at the end of one year of \$42.50. This charge is justified in view of the fact that dairy cows are credited with this item in determining the cost of milk production. By allowing \$3 credit for manure it leaves a net cost of \$39.52 at the end of the first year.

Figures for the average net cost of the 2-year-old heifer are as follows:

Initial value	\$7.04
Feed	40.83
Labor	7.81
Other costs	13.73

Credit for manure.....

69.41

8.00

\$61.41

One-half of the feed cost the first year and one-third for the full two years is for whole and skim milk.

By far the most expensive period in the life of the calf is the first four weeks, the cost being nearly double that for any other four-week period. This high cost is occasioned by its being dependent almost entirely upon whole milk.

The man labor required in raising a heifer is about 40 hours during the first year and 23 hours the second year. The total cost of man and horse labor for the two years is close to \$8. The manure produced during the two years has been valued at \$8; consequently the cost of labor is practically offset by the value of the manure.

The item "Other costs" consists of expenses usually overlooked in estimating costs. These are interest, charge for the use of buildings and equipment, expense for bedding, miscellaneous expenses, a share of the general expenses for the entire farm business, and a charge to cover losses by death and discarding. The total for these forms nearly one-fifth of the total cost of the 2-year-old heifer.

The foregoing figures show that it costs more to raise calves to maturity than is commonly supposed, and they support the advice which the department is continually trying to impress upon dairy farmers, that it does not pay to raise any but the best heifers. Raising scrub heifers and selling them at \$25 to \$40 apiece, as many do, is unprofitable except on cheap land or under other very favorable conditions. But it does pay to raise the best

Cattle and Hogs

I am able to supply cattle and hogs of nearly all breeds at prices well within the utility value of the animals. To parties wishing car lots of dairy cows I offer my services either as purchasing agent or as judge and assistant in securing the desired animals. If you are figuring on buying stock in the East or Middle West, write me your wants, as I may know of exactly the stock you wish.

I BREED
Berkshire Hogs
and have for sale
Stock of All Ages.

H. T. MORGAN, GLEN ELLYN, ILL.
Live Stock Purchasing Agent.

Copa De Oro Herd

Holstein-Friesian Cattle

For Sale—Six sons of TIRZAH LA POLKA PIETERTJE LAD, who has forty-three close relatives who have made 30 pounds or over of butter in seven days.

CHAS. JAY WELCH, LOS BANOS, CAL.

REGISTERED

HOLSTEIN-FRIESIANS

H. B. COWAN

Box 512 MODESTO, CAL.

MOORLAND FARM

HOLSTEIN-FRIESIANS

Offers for sale a splendid six-months-old Bull Calf with good A. R. O. backing.

K. W. ABBOTT, Milpitas, Cal.

REGISTERED

HOLSTEIN-FRIESIANS

Increase the value of your herd by introducing the blood of the greatest producers of the breed. We offer a number of Choice Grandsons of King Segla. Also a number of Grandsons of the world's record cow, Creamelle Vale. Write or call and inspect our herd.

F. & H. STENZEL, SAN LORENZO, CAL.

CREAMCUP HERD

HOLSTEIN-FRIESIAN CATTLE and O. I. C. SWINE

Bull Calves for sale from A. R. O. dams, sired by a grandson of King of the Pontiacs, also by a son of Colantha Johanna Lad.

M. M. HOLDRIDGE,
WOOD COLONY, MODESTO, CAL.

REGISTERED

HOLSTEIN-FRIESIANS

Herd Headed by

Juliana King of Riverside

One of his young bulls, also one sired by Cornelia King and out of high producing dams, for sale.

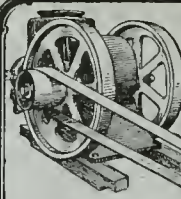
B. F. ANDERSON,
ROUTE 2, MODESTO, CAL.

REGISTERED

HOLSTEIN FRIESIANS

We offer a grandson of KING OF THE PONTIACS, nearly white. Fine individual; 17 months old. Price \$250.00.

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CHINO, CALIFORNIA.



Freeport Gasoline Engine

The Engine of Perfect Design and Simplicity.
Everybody's Favorite.
Is Operated either with Gasoline or Distillate. Fully Guaranteed to Give Entire Satisfaction.
Built on modern lines—sizes 1½, 3 and 5 Horse Power.
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High Class Purebred Holstein Bulls For Sale

Write for Prices and Pedigrees

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VISIT OUR FARM OR WRITE FOR PRICES AND PEDIGREES

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We offer a number of choicely bred registered Holstein-Friesian Bulls, sired by RIVERSIDE PRINCE. These bulls are rugged, well marked, and of high individual quality.

NINTH SEMI-ANNUAL SALE HOLSTEINS

Lake Mills, Wisconsin,

Monday, May 11, 1914

100--EXCEPTIONALLY FINE CATTLE--100

Tuberculin Tested.

The dispersal of one of the good herds of Wisconsin, offering an opportunity to buyers not often found. This herd is composed of fifty well bred individuals.

Among this offering are the following:

Some young bulls sired by Sir Johanna De Kol 14 (48742), ready for service.

Three 5-year-olds, one having 21.69 pounds, two being 18 pounds.

Twenty heifer calves and young bulls, majority out of tested dams.

Two 6-year-olds, one having 23.38 pounds, the other 19.90 pounds.

A 25.07 pound, 7-year-old.

Three 2-year-olds with records up to 17.58 pounds.

OTHER OFFERINGS.

A 23.91 pound cow sired by Canary Mercedes De Kol (29175).

Choice yearling bull from a 19½ pound junior 2 year old.

A 3-year-old son of this cow, right in every way.

Four choice young cows in calf to JULIANA KING OF ROCK (112126). Your only opportunity of buying one of his daughters.

Two young cows that made 15 pounds as 2-year-olds, in calf to King Kordyke Veeman Wayne (99881).

Six daughters of Mutual Piebe of Rock (85129), brother to Juliana King of Rock, and who sold for \$3000.

A good cow that made 13 pounds as a 2-year-old, in calf to Genevra Johanna (74986).

A fine 16 months sire whose dam, Arcadia Pontiac Parthenia, has a record of 15.85 as a 2-year-old, and is due to be a 30 pound cow.

A fine heifer with second calf, from a 23 pound dam.

SEND FOR CATALOGUE.

F. H. EVERSON, Gen. Mgr.,
Lake Mills, Wis.

E. M. HASTINGS, Sales Mgr.,
Lacona, N. Y.

heifers, for in good dairy sections well-bred heifers are worth considerably more than \$60 when 2 years of age. Furthermore, dairy farmers as a rule are obliged to raise their own stock, as it is difficult to buy productive cows at a reasonable price. In some sections of the West where alfalfa is worth only \$4 or \$5 a ton, or in the Southwest, where pastures furnish feed the greater part of the year, this cost may be greatly reduced. Even where it costs \$60 to raise a heifer, two-thirds of this amount is charged for feeds at market prices, a large part of which can be grown on the farm at a profit. Thus by raising the heifers the dairy farmer finds a home market for feeds grown on the farm at remunerative prices, and at the same time aids in maintaining the fertility of the farm.

PAYING OFF DA DEBT

Aye ban milking on da bossy
Out har on da farm
Aye like it in da winter
Ven da barn are nice and varm
For dep make me plenty penga
Das tink aye make you bet
Dat bossy am da surest way
For paying off da debt.

Dey may not be so quicker
Like getting pumper crop
But ven ve aint a get him
Tis den ve have to hop
Ve get scrapping vid da merchant
For penga ve have not get
But ven ve got da bossy
Ve can pay some on da debt.

Aye try dem all veat business
To tink, it makes me svet
Do more aye try to raise him
More deep aye go in debt
Dem collector come and see me
Until ha get me sore
And tink aye buy me bossy
Den aye go in debt some more.

Aye buy me tan gude bossy
And aye pay me eight per cent
Den aye figger up da cost of
Ven sax mont he have vent
Den aye figger vat aye selling
Beside da calf aye git
And find aye make more penga
Ven aye ban pullin' tits.

Aye feed dem cattle silage
Da cost aint ver big
It's gude ting for da chicken
And also for da pig
Da little calf hay eat him
And growing fast you bet
Vill bringling in more penga
To paying off dem debt.

Aye seedling me some pasture
On one-quarter of da farm
Aye tink hay growing plenty
Ven da days get nice and warm
And aye tink me dem cheap feeding
Are dem gude ting you bet
Aye tink it helping plenty
Vile paying off dem debt.

Aye like das pure-bred bossy
For he's gude ting you see
You bet aye like to von
But he's cost too much for me
Now aye saves me all da heifers
From das pure-bred bull aye get
Den da incomes be more plenty
To pay me off das debt.—B. Briggs, in
Hoard's Dairyman.

SUGGESTIONS FOR CALF RAISING

We prefer to take the calf from the mother as soon as dropped, never allowing it to nurse once. By this method the cow soon forgets the calf, and the latter is much more easily taught to drink.

The mother's milk should be fed the

first week, beginning when the calf is 24 to 36 hours old. The milk must be fresh and warm (about 95 to 100 degrees Fahrenheit), and must always be fed from a clean pail, preferably a tin pail. A wooden pail is too hard to keep sweet and clean.

The second week whole milk from any cow may be fed, and the third week, if the calf is in good health and growing nicely, the change to skim milk may be begun. Do not make the mistake of feeding more skim milk simply because the cream is removed. The whole milk contains about as much protein as the calf can handle, and when the skim milk is fed in large quantities the calf gets more than he can use and as a consequence a sick calf is the result.

The change from whole milk to skim milk must be gradual: from one-half to one and one-half pounds per day, depending upon the size and vigor of the calf. To an average calf, two weeks old, we would feed about twelve pounds per day of whole milk. The first day of the third week (or when it is desirable to begin the change) the daily feed would be eleven pounds of whole milk and one pound of skim milk; the second day, ten pounds of whole milk and two pounds of skim milk, and so on until the complete change is made. It is just as essential to feed the skim milk warm as the whole milk, although when the calf gets larger and stronger, six to ten weeks old, a gradual change to cold milk may be made.

Allow the calf a clean, airy paddock or box stall in which to get exercise. Give him some well cured hay, such as timothy and clover, or timothy alone, as soon as he will eat it, which will be when he is from 3 to 4 weeks old. Alfalfa in small quantities may be fed, but with this roughage there is danger of the calf's eating more than he can properly digest.

Grain may be fed as soon as he will take it, and for this purpose a mixture of bran and crushed oats or crushed oats alone is recommended.

Calves should be fed in a stanchion so constructed as to prevent them from sucking each other's ears after they have drunk their milk. The feeding of grain by placing a little before them after every meal of milk will also discourage the desire to suck the ears of the calf in the next stanchion.

The secret of successful calf raising lies in keeping the calf's digestive organs in perfect shape. To do this avoid sudden changes, either in feeding or management. Feed warm milk from clean pails, but do not feed too much. Clean, sunny quarters, with exercise and clean and wholesome food fed in proper amounts at the proper time will lessen the number of weak calves, and produce heifers which will develop into vigorous cows.

A. B. NYSTROM,
Dairy Husbandman, Washington Experiment Station, Pullman, Wash.

CHURNING TEMPERATURE

The temperature at which cream should be churned should be determined by a trial churning of at about 50 degrees F. If the butter comes quickly and is soft, churn at a lower temperature next time. If it comes firm and requires a long time to churn a higher temperature should be used next time.

The churning temperature will be effected by the following factors:

First—The hardness or softness of the butter fat. Feed, breed and individuality determine hardness or softness of butter fat.

Second—Amount of ripening. Sour cream may be churned at a higher temperature than sweet cream.

Third—Temperature cream was held at previous to churning. High temperature in ripening and holding requires lower temperature in churning.

G. E. FREVERT, Dairyman,
Idaho Experiment Station.

Holstein Blood That Is Increasing In Value

is strong in the bulls sent out from our herd.

Official and semi-official test work has revealed a high average production of both milk and butter-fat from our cows, and as their productive tendencies are transmitted chiefly through their sons, these bulls become more valuable as the production of their female ancestors and relatives is established on higher levels.

Four cows in our herd have each made over 1000 pounds of butter in 365 days under semi-official test.

Fifteen cows in our herd have semi-official records for 365 days averaging 721.13 pounds of butter-fat and 20,525 pounds of milk.

Seven of our cows have each made official records of over 30 pounds of butter in seven days.

620.98 pounds of butter-fat is the average production of forty of our cows, including a large number of heifers with first calf, made under 365 day semi-official test.

Cows and heifers of the same families and blood lines as those already tested are being started on test as they freshen, and these are producing a volume of milk and butter-fat that is still further increasing the average for the whole herd.

The offspring of these cows are by KING SEGIS PONTIAC EMPEROR, LORENA KORNDYKE, SEGIS PONTIAC DE KOL BURKE, ARALIA KING and PRINCE GELSCHER WALKER, each of which carries a large percentage of the blood of the heaviest and most persistent producing cows of the Holstein-Friesian breed.

The heavy demand for bulls has left us with no bulls of breeding age for sale.

We offer a very choice selection of bull calves that are fine individuals and are bred in our best production lines. The prices on these calves are well within the means of any progressive dairyman.

WRITE NOW FOR PRICES AND PEDIGREES, OR COME TO OUR FARM AND SELECT ONE OR MORE BULLS THAT YOU WILL NEED FOR FALL SERVICE.

A. W. MORRIS & SONS CORPORATION, Woodland, California

WE HAVE A LIMITED NUMBER OF YOUNG BULLS OF AN INDIVIDUALITY AND BREEDING THAT ENTITLES THEM TO PLACES AT THE HEAD OF THE BEST HERDS OF PURE-BREDS. BREEDERS OF PURE-BREDS ARE INVITED TO WRITE FOR PEDIGREES AND PRICES OR VISIT US AND INSPECT THESE BULLS.

GEO. A. SMITH'S

First Sale of Registered Holstein Cattle

CORCORAN, CAL.

Tuesday, June 16, 1914

125 Head of Registered Holstein Cows, Heifers and Bulls Will be Sold at Bidders' Prices.

25 Head of Registered Holstein Cows.

20 Head of Bred Registered Holstein Heifers.

50 Head of Registered Holstein Heifers.

20 Head of Registered Holstein Calves.

10 Head of Registered Holstein Bulls.

This stock will be sold without reserve and without regard to cost or value, and includes many animals from the best breeding of the WORLD'S GREATEST MILK AND BUTTER BREED. Many were imported from Leading Eastern Herds, and being such a large sale some of these animals will go at Bargain Counter Prices.

GEORGE A. SMITH,
WRITE FOR CATALOGUE. CORCORAN, CAL.

MILLBRAE DAIRY HOLSTEINS

PROPERTY OF ESTATE OF D. O. MILLS

We have for sale a few Bull Calves of exceptional breeding and individual merit. The dams of these Bulls are among our heavy milkers.

Sired by our herd bulls that are rich in butter blood. As our bulls are usually sold before reaching breeding age, it is advisable to make an early selection.

WE HAVE NO FEMALES FOR SALE

Correspondence Invited

Visitors Welcome

14 Miles From San Francisco on Southern Pacific
or San Mateo Electric Cars Leaving 5th and Market

MILLBRAE DAIRY
MILLBRAE, CALIFORNIA

GOOD RECORDS ESTABLISHED AT END OF SEASON IN MORRIS HOLSTEIN-FRIESIAN HERD.

The cows and heifers that have recently finished A. R. O. work in the short periods and semi-official for the long period, in the registered Holstein-Friesian herd owned by A. W. Morris & Sons Corporation, Woodland, Cal., have quite materially increased the

average production of the herd, and the last month has brought out some really good ones.

The most important record recently completed was that of Miss Blaney that finished her year's work with 20,740.3 pounds milk, 806.2 pounds butter-fat. This is equal to 1008.15 pounds of butter, and places Miss Blaney as the fourth cow in the Morris herd that has produced over 1000 pounds of butter in one year under semi-official test.

Miss Blaney's half sister, Co Bossie Butter Girl, comes next in importance among the later ones to finish, with a year's production of 19,953.2 pounds milk, 663.248 pounds butter-fat.

Louise of Riverside and Ethel of Riverside both furnish striking examples of the persistently high producer that makes a high record one year and comes right back with a better one the following year. Last year Louise of Riverside produced 632 pounds of butter-fat in 4-year-old form, and came back this year in 5-year-old form and brought her record up to 651 pounds of fat. Ethel of Riverside made 582 pounds of butterfat last year, and this year by a very substantial increase in production established a mark of 641 pounds of butter-fat.

Three more good ones to finish in April were Careme Rachel Mechthilde with 635.57 pounds fat, Geneseo Beauty 2d, with 586.30 pounds fat at age of 3½ years, and Floa Bergsma Butter Girl with 557.32 pounds fat at 4½ years of age.

A most commendable production was made by the heifer Nudine Daisy Pondyke. At the age of 2 years and 2 months, with first calf, she made 496.80 pounds butter-fat in one year. Her performance places her well within the great class of 2-year-old heifers that have been given high records in this herd within the past year.

Among the short period A. R. O. performers, the mature cow Wilhelmina Gerben De Kol ranks first among recent tests. In seven days she produced 24.30 pounds butter-fat and in 30 days 93.36 pounds. This makes the seventh cow in the herd to produce over 30 pounds of butter in seven days.

Arcula Alcarra made 21.38 pounds fat in seven days, We No Alcarra made 20.88 pounds fat, Nydia Creamcup made 19.968 pounds fat.

Still further honors have been brought to the blood of Aralia De Kol and De Kol of Valley Mead by the performances of three of their young descendants. Aralia De Kol 3d, now at the age of 3½ years, made a seven day record of 18.47 pounds butter-fat, while Aralia De Kol Mead, a 2-year-old daughter of Aralia De Kol, made the exceptionally good production of 17.36 pounds butter-fat in seven days and 71.39 pounds in thirty days.

De Kol of Valley Mead 4th made 16.449 pounds fat in seven days as a 2-year-old. The way these 2-year-olds are starting in to produce is a very strong indication that there have been some remarkable mating made in the Morris herd, and that the several families now strongly established in the herd have an immense capacity for still greater development.

One of the most interesting young things that has recently begun her producing period in the Morris herd is Jane Netherland Segis. She is the first daughter of King Segis Pontiac Emperor to come into milk, and naturally she is being watched with some interest. Her dam is rather an in-

SILO FACTS

A silo must be absolutely air-tight to produce good ensilage and should be so constructed that it will continue to be air-tight after the first filling.

Non-conductive of heat and cold.

Economical to erect and maintain.

Strong and rigid to resist weather conditions, and easy to operate.

All necessary features for the operation and maintenance of a perfect silo are incorporated in the Ideal Green Feed Silo.

Buy an Ideal Green Feed Silo now and fill it with your first cutting of alfalfa. Then plant corn to fill it again this fall, insuring yourself against burnt-out pastures this summer and the high cost of feed that will be necessary to buy next winter.

Write for catalogue D for full information.

Ensilage Cutters and Alpha Gasoline Engines.



The HINMAN Milking Machine

Has had a wonderful year—2381 machines sold in 1913.

The Simplest, Safest and Most Reasonable Machine Offered



Read the following:

Brawley, Cal., Nov. 28, 1913.
C. F. Daniels & Son,
Modesto, Cal.

Dear Sirs: I have investigated your machine (THE HINMAN) thoroughly and am thoroughly satisfied you have the only practical and efficient machine on the market.

Respectfully yours,
F. B. MACKIN.

C. F. DANIELS & SON

MODESTO, CALIFORNIA.
Agents for California and Oregon.

Victor Buck Rakes

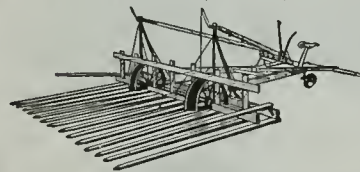
One of the hardest tools for a California rancher to get is a satisfactory Buck rake. Eastern made rakes do not meet Pacific Coast conditions. The Victor is especially adapted to Pacific Coast conditions. Has extra long teeth, extra wide high wheels and strong frame. Easy to work. Leverage perfect with heaviest load.

Send for Literature

The H. C. Shaw Company

Manufacturers

50 N. California St., Stockton, Cal.



BIG MONEY in the OFF SEASON

There's a big demand for Irrigation wells throughout California and the Southwest. You can Make Big Money during your spare time with the

**IMPROVED POWERS
COMBINED BORING AND
DRILLING MACHINE**

Bore a 100 foot well in 10 hours. Will go through gravel, sand, or clay; drills through rock. One team takes it over any road. Operated by same team or by gas engine if preferred. No power or staking; rotates its own drill. FREE Catalog; Easy Terms.

Liste Mfg. Co.
Box 425, 625 Third St.,
San Francisco.



ferior cow, both as to type and production, but the heifer shows her sire's blood very decidedly and is a very good type. She has just made an A. R. O. record of 13.63 pounds butter-fat for the seven-day period, which is not a remarkable figure, but taken altogether is quite a satisfactory indication of what may be expected from some of the other daughters of King Segis Pontiac Emperor that will shortly be coming into milk.

Up to May 1st forty cows in the Morris herd have averaged 620.98 pounds butter-fat in one year under semi-official test.

The best fifteen cows averaged 721.13 pounds butter-fat and 20,525 pounds milk in one year.

HILLIER JERSEY SALE

The sale of registered Jerseys held at G. O. Hillier ranch, Modesto, Cal., on April 2d, brought out a large crowd, but only about a dozen active bidders. The ninety odd head of all ages in the sale bringing something over \$15,000. The top price of the sale was brought by the bull, King Polo of Bleak House, who went to C. G. McFarland at \$900. Mr. McFarland sold him almost immediately at a substantial increase in price.

Mr. McFarland bought also some of the best cows in the lot, going over \$300 per head for most of them. These will be added to his present Willowood herd at Tulare, and gives him a strong herd for development.

R. L. Waltz, owner of Royal Jersey herd at Hanford, was also a buyer of good cows, and secured the grand old bull, Gertie's Son. The old fellow is getting quite well along in years, but looks fit for a quite a lot of service yet.

N. H. Locke Co., Lockeford, bought a number of exceptionally good cows and heifers, and bought back one of the bulls that was bred by them.

Fred Wulff succeeded in securing two half sisters to his great young bull, The Owl's Duke, and is on the way to get into the Jersey family with a good small herd.

A. L. Cressy, a Modesto capitalist, was a heavy buyer of cows, and secured one young bull.

J. E. Thorp of Stockton secured one good cow, The Owl's Countess Bessie, and J. B. Thorp took one of the young bulls.

There were a number of great bargains in this sale, in our opinion, the one having the greatest possibilities seeming to be the purchase of Gertie's Son by R. L. Waltz. It seemed also that Mr. Turner of Modesto made a very good buy on the bull Marquis of Turlock. This bull figures to become established as a very good sire if given an opportunity, and the few of his calves in the sale show that he is getting offspring of unusually good type. He is half brother to Foxy Marquise Belle, the Polytechnic cow that recently broke the California Jersey record.

There were any number of bargains among the heifers, and although two of the heifer calves brought \$290 and \$285, respectively, they were well worth the money both on breeding and type.

The sale was conducted by Ben A. Rhoades of Los Angeles in his usual capable manner, the sale moving along smoothly throughout.

Mr. Hillier expressed himself as very well satisfied with the results of the first Jersey consignment sale, and while we believe that the prices realized on some of the stock, heifers particularly, were real bargains to the buyers, yet the sale did a wonderful amount of good in demonstrating that buyers who attend these California Jersey consignment sales may expect to receive the best possible treatment, and that the animals are all bought at bidders' prices.

Hot Weather Demands Better Methods in Dairies

Hot weather is an essential factor in some lines of agriculture, but it presents a hard problem to the dairyman and creameryman who handle milk, cream and butter. When two or three exceptionally warm days prevail the effect is noticed immediately, and unless extra effort is made to protect the product of the cow from excessive heat and high temperatures, quality will be materially impaired. At the University Farm creamery where cream is received from local dairymen, certain patrons deliver a uniformly better grade of cream than others, a fact especially noticed when such a spell of hot weather prevails. This is due to the manner of handling the milk and cream on the dairy, and illustrates the value of good methods. One patron who furnishes whole milk finds it possible to deliver milk sweet by cooling it immediately after it is drawn, while another patron who is closer to the creamery and delivers as frequently, has had trouble in holding his milk in a sweet condition until delivered because of inefficient cooling. A similar condition prevails with regard to cream. Cream is received from some patrons daily, and while one lot may be received fresh and sweet, another will be slightly sour. From the standpoint of the creameryman sour cream is not so objectionable, if perfectly clean, as sour milk, for the latter can not be used, but a much better grade of butter can be made if the creamery receives the cream sweet, and is enabled to control the souring according to more ideal conditions than those found on the ordinary dairy.

The fact that cream from some dairies is so much better in quality is due to several reasons which, briefly stated, are, clean methods, prompt cooling and frequent delivery—three conditions which should prevail on every dairy at all times of the year, but which are absolutely essential during the hot weather. The dairyman who sells milk realizes this, but where cream is the market product there is a tendency to give less care to this highly perishable article. If cream is to be sold the milk should be separated as soon as drawn, and the fresh cream cooled immediately afterwards. If this is not done the animal heat remaining in it will help along in the development and growth of bacteria, whereas if cooling takes place the heat is withdrawn and a condition results which is not so favorable to deterioration.

At the University Farm a tank cooler has been found very effective in cooling cream, ordinary well water being used. It is possible to cool cream to within a very few degrees of the surrounding water in a comparatively short time. In the experiment referred to the air temperature averaged 89 degrees and the water used for cooling was at 70 degrees. It was possible to cool milk from 100 degrees to 75 degrees in two hours, while milk which was allowed to stand without cooling dropped to but 97 degrees in the same length of time. These figures are strong argument in favor of cooling, as they represent practice, not theory. The average dairyman would be surprised at what good results attend such little effort on his part. In building a tank it should be constructed to hold at least two cans, so that freshly separated cream need not be mixed with cream already cooled, thereby raising the temperature of the latter, making a condition favor-

able to more rapid souring and also necessitating extra cooling. A new lot should be cooled before mixing with any already cooled. Water should enter the tank at the bottom and overflow near the top, so as to provide for good circulation and more efficient cooling, as the tendency of the water is to raise as it becomes warm. Running water is preferable, although a frequent change will accomplish much better results than letting the cans stand unprotected.

Another feature which is too often overlooked is that cans of cream are given no protection in transit. If allowed to stand in the open sun an immense amount of heat will be absorbed, and this together with the fact that the can is closed tight will inevitably produce a bad flavor. By all means dairymen, cream haulers and creamerymen should see that some covering is placed over the cans to protect them from the sun. Then if a dairy delivery is made, dairymen can expect much better prices for their product. Experience shows that the creameries which are able to maintain highest prices are the ones which receive the best cream, and invariably it will be found that the three conditions mentioned—clean methods, prompt cooling and frequent delivery—are the factors which make for the highest measure of success. When hot weather prevails more attention must be paid to these matters.

CREAM THAT DOES NOT CHURN

The Live Stock and Dairy Journal—Will you please tell me what is the matter with my cream? When I churn it it will foam up thick like whipped cream, but will not break for butter. I have tried everything I know to do.—Mrs. J. W., Tehama County, Cal.

It is quite possible that the temperature of your cream is too low when you churn. Try to churn at a temperature of about 55 to 60 degrees, and if you do not get better results give us a more detailed statement of your methods and condition of the cream.

JERSEY BULLS

Sired by GERTIE'S LAD, and out of Official Test cows. Prices Right. Papers Free.

Also two broken colored St. Lambert Bulls of exceptional breeding, at a bargain. Particulars on request.

X. CARRITHERS, R. 3, Box 105, Tulare, Cal.

Reference, First National Bank of Tulare.

PROSPERITY

Attends the dairyman who properly cares for and amply feeds Good cows. A GOOD cow is one that responds quickly and profitably to the influences of good feeding and careful treatment. Pure Jersey blood returns large and persistent dividends upon the original investment of feed and care. There is no dairy blood that is more responsive.

You can introduce a large measure of responsive blood into your next crop of heifers by securing one of our registered bulls. KING'S VALET and BORELLO'S GOLDEN LADDIE get uniformly good calves of the most approved type, and we offer at present a limited selection of their best bull calves.

N. H. LOCKE CO., Lockeford, California
NO FEMALES FOR SALE AT PRESENT

JERSEY TYPE

JERSEY QUALITY

We have a few handsome, vigorous young bulls out of our best cows and sired by MERRY MAIDEN'S CONQUEST, a son of MERRY MAIDEN'S 3D SON, Grand Champion Jersey bull at St. Louis Exposition.

By owning one of these bulls you can introduce into your herd the blood of one of the best bulls of the breed.

Come and see our herd or write your needs. Prompt attention to correspondence.

B. & F. RANCH, F. O. FRAZIER, COVINA, CAL.

BUY THIS ONE

A 12 months old registered Jersey Bull out of Glenwood Marlan 2d, a daughter of Glenwood Marlan with a R. M. record of 512 pounds butter-fat, she being sired by Imp. Flying Stead. This young bull is sired by Gertie's Son, is solid color, with a little white in switch. This is an opportunity to secure producing blood at an ordinary price. PRICE \$125.

C. G. McFARLAND,
Prop.

WILLOWWOOD JERSEY FARM,
R 2, TULARE, CAL.

Rancho Santa Marguerita Registered Jerseys

OFFICIALLY TESTED

D. F. CONANT

R5, Box 64

Modesto, Cal.

VENADERA HERD of Registered

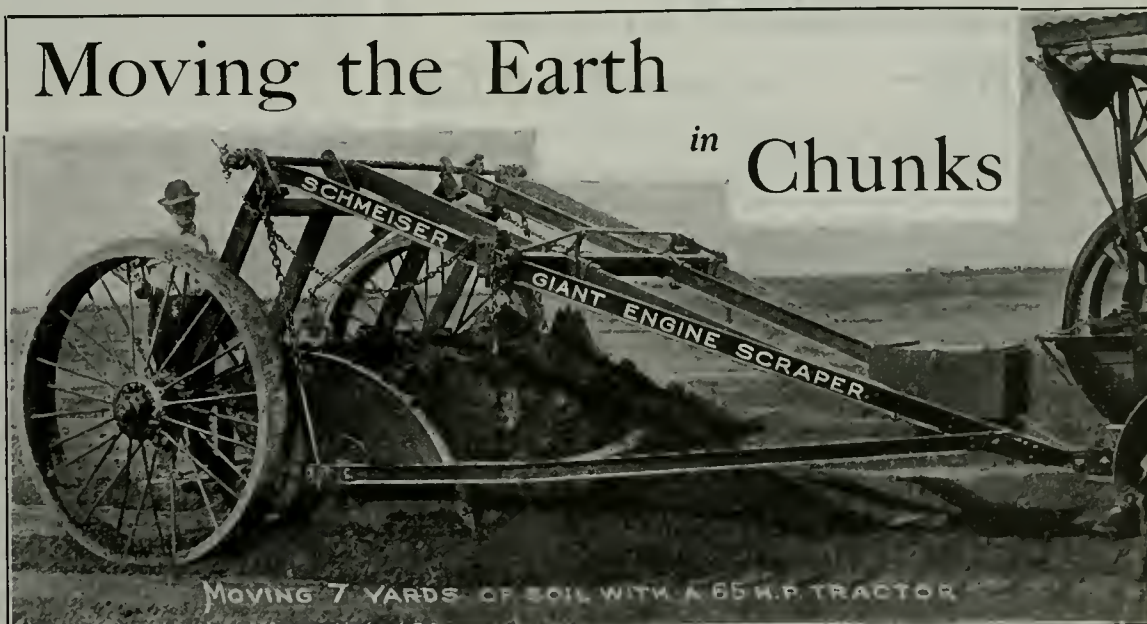
JERSEYS

Guy H. Miller, Prop.

MODESTO

CALIFORNIA

Moving the Earth in Chunks



The SCHMEISER GIANT ENGINE SCRAPER can be seen at work at the Tractor Demonstration near Sacramento on the 7th, 8th and 9th of May, and will be interesting to the man who has earth to move, tearing down or building levees or railroad grades, buildings roads, leveling land for rice, alfalfa or orchards. Do not fail to see this machine and some of the other labor-saving devices made by the

Schmeiser Manufacturing Company

Davis, California

A GOOD START

The public sale of registered Jersey cattle at the Hillier ranch, Modesto, in April, had all the ear marks of the beginning of a new era in public sales of registered animals in California. The manner in which the sale was conducted has done much to promote confidence in like sales, and it enabled a number of breeders to secure some excellent stock at fair prices. The heaviest buyers at this sale were nearly all keen judges of Jersey value, and taking the sale as a whole prices were below real value. There was no "bidding in," and when an animal left the sales ring it was the property of a new owner. In the report of the sale in this issue we have referred to the class of the young stock. We believe that the heifers were the greatest bargains in the whole sale, for many of them were quite evidently worth more money than they brought. Mr. Hillier plans to have a choice lot of imported stock for the next year's sale, and he will undoubtedly be able to attract a large number of buyers after the good showing made in this year's sale. This matter of public sales is an important one in California today. The main consideration is that the stock put through these sales shall be of a quality that will benefit the whole of our breeding industry. Having the quality it is next important that the sales shall be conducted in a clean-cut way, and that buyers will always be assured of a fair deal. In other sections of the country there are sales held year after year by the same man or men, and their reputation has become so firmly established that they attract the very best breeders. That is the kind of sales we need in California, and of such character was the first Jersey Breeders' Consignment Sale.

SPLENDID HOLSTEIN SALE

The March 28th sale conducted by Liverpool Sale and Pedigree Co. at Syracuse, N. Y., was one of the best sales of black and whites yet held. The offerings included some of the best bred stock in New York, among them several daughters of King of the Pontiacs. The top price at the sale was secured for the bull Johanna King Segis, who went to a Wisconsin buyer at \$4150. Two daughters of King of the Pontiacs were secured by an Illinois buyer, who paid \$2900 for K. P. Lillith Clothilde and \$2000 for K. P. Lillith Lady Clothilde. The top price for a female was paid by a Connecticut buyer, who purchased K. P. Lillith Boon, another daughter of King of the Pontiacs, for \$3200. There were a number of animals in the sale that

brought over \$2000 each and quite a large number that brought over \$1000 each. Most of these top prices were paid by men who are already in the breeding business with famous herds of their own, so that quality of an unusual degree was necessary to attract this class of buyers.

MACLEAN HOLSTEIN SALE.

The dispersal sale of Holsteins held at the M. A. Maclean ranch at Modesto, Cal., brought out a large crowd, but only a comparatively few active bidders. The sale suffered somewhat from the fact that no catalogue was issued, and those at the ringside had nothing but an unsatisfactory arrangement of posters tacked to the end of the barn to guide them as to breeding and production of the animal in the ring. The top price was secured for a cow that went at \$410. Several more cows and heifers went around the \$300 mark, and at these prices it is safe to say that some real bargains were secured by buyers. There is no doubt but that this sale would have averaged quite a bit higher had a catalogue been issued so that bidders could have bid more intelligently.

FREE BULLETINS

The following bulletins and circulars are now ready for free distribution:

Bulletin No. 167—Steer Feeding. Agricultural Experiment Station, Lafayette, Ind.

Bulletin No. 168—Fattening Western Lambs. Agricultural Experiment Station, Lafayette, Ind.

Bulletin No. 172—Soy Beans and Cow Peas. Agricultural Experiment Station, Lafayette, Ind.

Circular No. 117—The Selection and Cost of a Small Pumping Plant. Agricultural Experiment Station, Berkeley, Cal.

Farmers' Bulletin 574—Poultry House Construction. Department of Agriculture, Washington, D. C.

Circular No. 42—Testing Milk and Cream for Butter-Fat. Agricultural Experiment Station, Lafayette, Ind.

GEO. A. SMITH'S JUNE HOLSTEIN SALE

On June 16th Geo. A. Smith of Corcoran, Cal., will hold his first public sale of registered Holstein. There will be something over 100 head in the offering, and while we have seen only a part of the lot, there are among them some very desirable heifers and cows, offering one of the best selections that has yet been offered at a public sale in California.



Experience has proved that riveted seams are the best and strongest seams

"WESTERN"

No Sections. Solid Lengths of 10 ft. 6 in. Surface irrigation pipe is the strongest made. It is riveted instead of lock-seamed. We make Riveted Pipe and Riveted Well Casing, Steel Tanks, Irrigation Supplies.

Write for Literature
WESTERN PIPE & STEEL CO.
OF CALIFORNIA
440 Market St., San Francisco
1754 N. Broadway, Los Angeles
Branches: Sacramento, Fresno and Taft

See Those Rivets Mr. Farmer?

DUTCH BELTED CATTLE

At the Oregon State Fair, 1912, my herd won all first prizes but two and all Champion and Grand Champion prizes. At the California State Fair, 1912, my herd won all first prizes but two, both gold medals and all Championships but one. Young stock of the finest quality for sale. Write for circular.

Frank Reed Sanders,

SALT RIVER VALLEY,

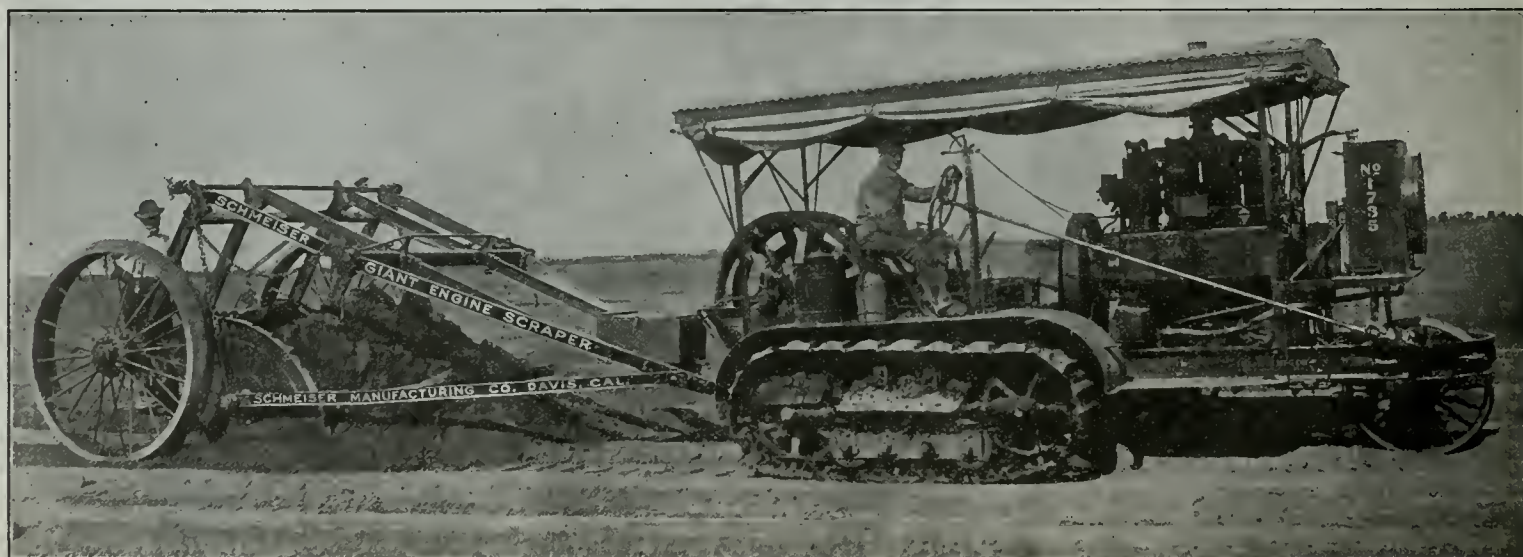
MESA, ARIZONA.

HERBERT, VOGEL & MARK CO., Inc.
Cooperage

Eighteenth and Indiana Sts., San Francisco

TANKS—TANKS

Wine, Water and Stock Tanks made from selected stock, and with experienced workmanship. Rectangular Tanks and Water Troughs, Tank Towers and Windmills. All inquiries will receive our prompt attention.



At work on the ranch of A. B. Humphrey, San Joaquin County, California. This 65-Horsepower Holt Caterpillar Engine Hitched to a Schmeiser Giant Scraper, Leveled, Checked, Bordered and Graded 100 Acres of Rough Land in Thirty-Three Days. This Land is Being Fitted to Support Large Herds of Registered Guernsey Cattle and Berkshire Hogs.

Mention The Live Stock and Dairy Journal When Writing to Advertisers.

DO YOU TURN YOUR SEPARATOR BY GUESS?

The Live Stock and Dairy Journal—

Few persons realize the vital importance of running the cream separator at the speed its manufacturers intend it to run. Recent tests at the Purdue Experiment Station showed that more than \$500 may be lost annually by the farmer with twenty average cows who turns his separator by guess. Even if your herd numbers but ten, is not this matter worth your attention?

My advice to every one who owns and operates a cream separator is to at once buy a metranome, the most unique and wonderful little instrument in the world for making the operator turn his machine correctly. Gauge yourself by a watch and you will see that it is impossible to run your machine accurately by guess. Variation in speed increases or diminishes the centrifugal force, and this is exactly what we are warned against by the manufacturers of the cream separator.

Few farmers will go to the trouble and expense of attaching a speedometer, and still fewer will have the patience to keep track of a time piece. The metranome, which is found in every home where there are students of music, has shown itself surprisingly adaptable for use as a time keeper for the separator. This small instrument indicates both by sight and sound any number of beats per minute that are desired. Thus, if the handle is to turn 48 times a minute the metranome can be set to give 48 loud ticks per minute, or one can set it to tick 96 times per minute, which makes it a little easier to keep track of, as every half turn of the handle is thus distinctly measured.

Obtain a metranome from any music store or firm that deals in similar supplies. Set it on a shelf near the separator and it will save you mental worry and financial loss every time your separator is operated. When you are tired out after an evening's milking you naturally turn the machine too slowly. And when you come in from the barn on a bright, snappy winter morning, after having found a new heifer calf from your best cow, you feel so foxy that you will run a lot of your cream into your skimmed milk can by turning your separator too fast.

The writer has no metranomes to sell, but he has used one for a long time, and he would not again try to run a cream separator without one.

L. G. SHUTT.

Oregon.

Editor's Note—Our investigation of the price of metranomes has revealed a range of price from \$3 to \$4.50 at retail stores, and these prices are what one must expect to pay.

CALIFORNIA HOLSTEIN BREEDERS MEET

A meeting and banquet of California Holstein-Friesian Association was held at Modesto, Cal., on April 2d.

The banquet was attended by about seventy people, Mr. P. H. Davis acting as toastmaster.

Several prominent breeders spoke briefly upon subjects closely related to the development of the black and white breed.

Prof. Gordon H. True spoke in his usual happy manner, outlining briefly the ways in which the Animal Husbandry Department of our State Farm and Agricultural College hopes to benefit the breeding interests of the State.

Jas. W. McAllister, Jr., remarked with enthusiasm upon the rapid advances made by the Holstein-Friesian breed during the past few years, and

cited as substantial proof of public favor the greatly increased average prices realized at public sales of Holsteins.

H. B. Goecken of Livermore praised the Holstein as the ideal family cow, and made an interesting talk upon the place which the black and white cow holds in the family circle of his native province, Friesland.

Frank L. Morris of Woodland spoke effectively about the benefits of official testing and cow association testing. Speaking of the test work which has established great producers in the Morris herd, Mr. Morris stated that the results accomplished are largely due to the great productive capacity of the Holstein cow, and that any breeder may expect to achieve similar success through proper selection and handling of his cows.

The banquet was followed by a business meeting at which P. H. Davis was elected President and Jas. W. McAllister, Jr., was re-elected Secretary-Treasurer. President Davis appointed A. W. Morris, A. B. Kendall and G. U. Clark as members of the Executive Committee.

It was voted to fix the membership dues at \$5 for the coming year, owing to the added expense incident to the Panama-Pacific Exposition.

It is especially urged upon all breeders of purebred Holsteins in California that they become members of this Association, as a great good may be accomplished, not only for the breed, but for dairying in general through united effort. Applications for membership should be sent to Jas. W. McAllister, Jr., Chino, Cal.

BRIEF DIRECTIONS FOR FARM BUTTER MAKING

1. Cool the cream from the separator as soon as possible to 55 degrees F. or lower.

2. Never mix warm cream with cool cream.

3. Mix all the cream to be churned in one vat at least 18 hours before churning.

4. Ripen at a temperature of 70 to 75 degrees F. for from six to eight hours, stirring frequently during this period.

5. Cool cream to churning temperature as soon as ripe.

6. Let the cream stand eight hours or more (over night) at the churning temperature.

7. The temperature of churning should be such as to make the butter come in from 35 to 40 minutes, usually 55 to 60 degrees F.

8. If it is desired to use artificial coloring, it should be added to the cream just before churning.

9. Stop churning when the granules are about the size of peas, varying to wheat, and draw off the buttermilk.

10. Wash the butter once with pure water at the churning temperature, agitating three or four times, and drain.

11. Wash a second time with water about four degrees above churning temperature, agitating seven or eight times, and drain.

12. Add the salt wet while the butter is in granular form, using about one to one and one-half ounces for each pound of butter, according to the demands of the market.

13. Work the butter just enough to distribute the salt evenly.

14. If the butter is to go on the market it should be put up in neat, attractive packages.—Agricultural Experiment Station, Pullman, Wash.

The Live Stock and Dairy Journal—In preparing barley water for calves is it best to use ordinary whole barley or pearl barley, such as is used for making soups?

M. E. F., Mono County, Cal.

While crushed barley is entirely satisfactory, although the use of pearl barley will simplify the preparation of the water.

You need a new DE LAVAL SEPARATOR NOW



1st If you are still using some gravity or setting process of creaming—

BECAUSE YOUR COWS HAVE likely freshened now and your supply of milk is greater.

BECAUSE YOUR SPRING WORK requires every minute of your time and a good cream separator will be a great time and labor saver.

BECAUSE YOUR YOUNG CALVES will thrive best with warm, sweet separator skim-milk.

BECAUSE WITH YOUR INCREASED milk flow your greater waste of cream, without a good cream separator, must run into more money than you can afford to lose.

2nd If you have a very old De Laval or an inferior separator whether new or old—

BECAUSE THE LOSSES OF THE poor separator from incomplete skimming, and the tainted product of the hard-to-clean and unsanitary separator mean most when your volume of milk is the greatest.

BECAUSE OF THE AMPLE AND "more than advertised" capacity of the De Laval, you can separate more quickly and save time, when time means most to you.

BECAUSE AN IMPROVED DE Laval Cream Separator is so much simpler and more easily handled and cared for than any other, and you can't afford to waste time these busy days fussing with an inferior or half worn-out machine.

BECAUSE THE DE LAVAL SEPARATOR of today is just as superior to other separators as other separators are to gravity setting.

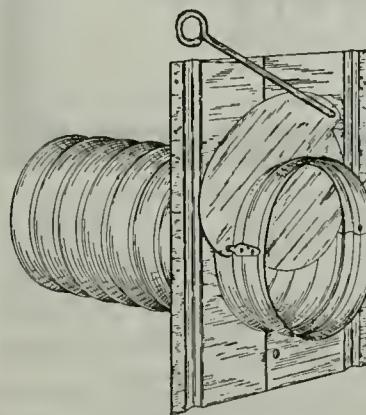
These are all facts every De Laval local agent is glad of the opportunity to prove to any prospective buyer. If you don't know the nearest De Laval agency simply write the nearest main office, as below.

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If you purchase Red Crown you are sure of obtaining a thoroughly uniform, reliable gasoline—not a "mixture" but a straight product of refining—the best gasoline the Standard Oil Company can make.

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Mention The Live Stock and Dairy Journal When Writing to Advertisers.

Irrigation and Protection of Reclaimed Land Along the Sacramento and San Joaquin Rivers.

By Roy L. Anderson.

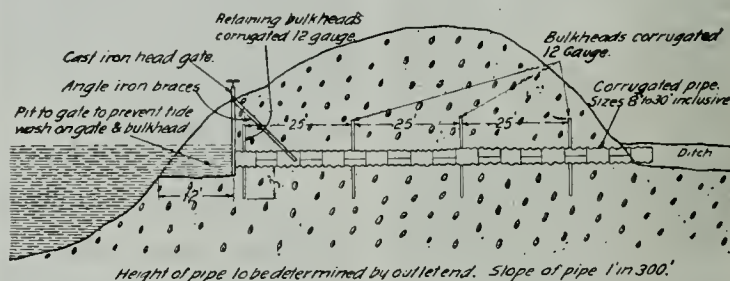
Senator Ingalls said that the bed of the Platte River, in Kansas, "would make splendid farming land if it only could be irrigated." The reclaimed swamp lands of the Sacramento and San Joaquin Rivers are in many respects the richest agricultural areas in the world; and strangely enough, to anyone unacquainted with California conditions, the principal problem in their development is that of irrigation. More exactly, the difficulty lies in drawing the proper quantities of water from the river during half the year, and excluding ruinous torrents during the other half.

The matter seemed at first a very simple one—to let water flow from a higher level to a lower, was something like the proverbial rolling off a log. But, just as Darius Green found, it is much easier to fly than to "light," so the island country ranchers have found by hard experience that a pipe or other conduit may work beautifully

tion. Cast iron pipe, with shoulder-leaded joints, has also been turned to as a possible solution of the matter. Rust would, of course, be a long time in eating its way through such a thickness of metal, and no such immovable bed is necessary as with brick or concrete. This pipe, however, is heavy and expensive, and costly experience has shown that it must be absolutely supported at the joints. Its weight often causes it to settle in the soft levee soil, which, in many cases, leads to the breaking of the joint; and it does not require an engineer's education to enable one to foresee the consequences of a broken pipe joint in the middle of a levee.

Sheet steel, cast iron, wood and every other form of smooth pipe has also a common defect which is fatal for this purpose. A trickle or ooze of water may at any time make its way along the outside of the pipe, that point being the weakest in the levee. Under flood conditions, this trickle may very quickly become a stream, and the stream a raging torrent. Many a conduit has been ruined and thousands of acres flooded by this cause alone.

The consideration of all these dangers arising from various forms of



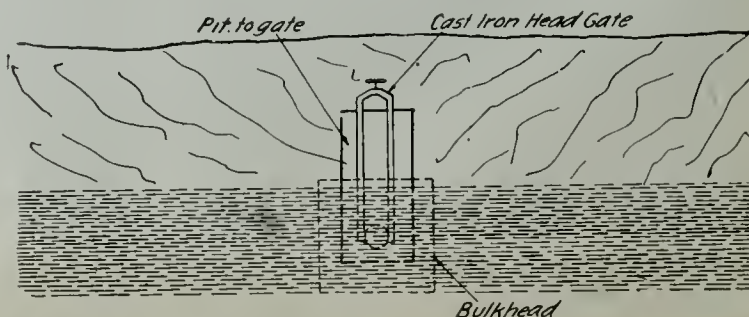
during the summer and fall, and he the means of starting a flood in the spring which will do a hundred times more damage than all the good it has accomplished.

The peculiar conditions of the island country make it somewhat difficult to select the best material for a conduit. The soil, for unknown depths, is of a peaty character, affording no adequate bed for anything of the nature of masonry. For this reason, conduits of brick, tile or concrete are found to be absolute failures, for none of these can endure the strains incident to a shifting foundation. Wood was, of course, one of the first things used, but the employment of so temporary a material was soon found to be the very opposite of economical. Weather conditions are decidedly unfavorable to wooden construction, and it often happened that such a waterway needed replacing after one or two seasons. When a replacement is needed in a pipe which runs through a levee, the island raucher is fortunate indeed if he discovers it before the river does.

Ordinary sheet-steel pipe, whether asphalt coated or galvanized, is hardly more permanent than wood. Corrosion begins almost immediately, and some of this pipe, after two or three years' service, is in a ruinous condi-

pipe, leading through the levee, has convinced some engineers that the only advisable method of taking water from the river is that of the true siphon, carrying the water over the levee top. This certainly avoids many of the difficulties attending the straight conduits; but it is, after all, very doubtful whether it constitutes a solution. The siphon is vastly more expensive and difficult to install, and it must remain air tight in order to be effective. Under rough and ready conditions this last is a severe requirement. It is often the case that a flow equal to the full capacity of the pipe is not desired, but with the siphon it is a case of "whole hog or none." Therefore, when the amount of water which can be cared for is anything less than capacity, the only way to proceed is by shutting it off at intervals. It is necessary to restore the siphon every time the tide goes down. The siphons are also a serious obstruction to dredging and other operations along the river bank.

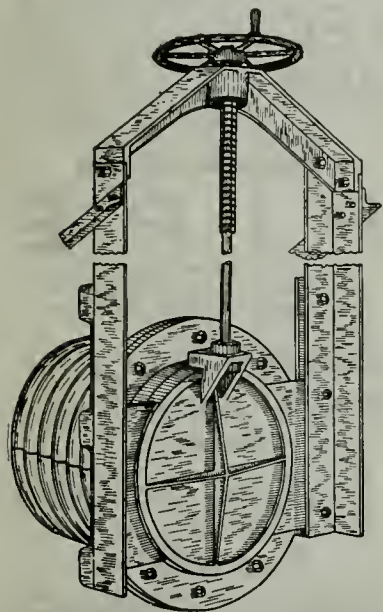
Many land owners are reporting the successful use of corrugated iron for pipe levees. This material is becoming familiar through its use for road culverts, where it seems to fill the bill perfectly. The corrugations increase its strength immensely over



that of plain pipe, thus allowing the use of lighter gauges; and they also serve to grip the soil and hold the pipe firmly in its bed. The earth packs closely into those corrugations and prevents the formation of the trickle that brings disaster in its wake.

The construction of this type in two-foot, riveted sections, is one that gives a maximum of strength, combined with elasticity. It withstands the strains resulting from a soft or shifting bed better than anything else, for there is just enough "give" in the material to provide for this. Culverts made in this way are now to be seen all over the country, replacing masonry or other rigid constructions, where the conditions are such that the latter could never be successful.

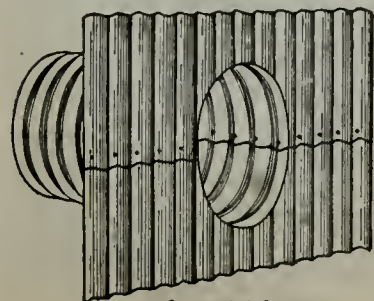
Corrosion, the great enemy of sheet metal construction, is guarded against in the better grades of corrugated



pipe by the use of high purity iron. It seems now to be pretty well established that the principal cause of corrosion in iron and steel is the impurity which it contains; and experience with wrought iron of the highest guaranteed purity in culverts and other exposed iron seems to justify the conclusion that it will be more permanent than even the fine old iron of seventy-five years ago, which the scientists tell us was also a high purity product.

The makers of this pipe have designed bulkheads or wing-walls of the same material, for a further protection at the inlet end. They have also perfected a heavy pressure gate for use in connection with the pipe, which is admirably adapted for regulating the intake. It consists of a cast iron slide attached to an angle iron frame, which supports a wheel-lifting device for raising or lowering the slide.

So far no failures resulting from the use of corrugated iron pipes and bulkheads in levee work have been heard of, and from present indications it would seem that they constitute the best material obtainable for that purpose.



AN ECONOMICAL MACHINE

In visiting the various irrigated sections of California and Arizona we have often made mental note of the great amount of labor and expense involved in the proper leveling and checking of land for irrigation. In many sections some of the most fertile land is so rough that only a man with a large working capital can successfully level and check it for crops, and the most approved methods so far known are slow and tedious processes. We were quite agreeably surprised recently to learn that a California manufacturer has perfected a machine which has now demonstrated that it can move great quantities of earth quickly and cheaply, and while the complete outfit is too expensive for the small land owner, yet there will undoubtedly be found men who can operate as contractors to level and check land, making satisfactory profit for themselves and doing the work better and a great deal more cheaply than by any previous method.

This machine is the Giant Engine Scraper, manufactured by Schmeiser Manufacturing Co., Davis, Cal., and we believe that they have produced in this machine one of the best aids to farming that has been developed in a long time.

One of the best pieces of work so far done with the Giant Engine Scraper has recently been completed on the San Joaquin County ranch of A. B. Humphrey, well known to our readers as a breeder of Berkshire hogs and Guernsey cattle, and whose herds are at present located at Mayhews in Sacramento County. Mr. Humphrey has just finished leveling and checking 100 acres of alfalfa land, using a 65-horsepower Holt Caterpillar hitched to a Giant Engine scraper. The 100 acres was leveled, border built and ground smoothed in thirty-three days. This included putting up the grades for the ditches, about three thousand feet, cutting and filling of holes and depressions, and as a whole the 100 acres was originally rough land. In some cases it was necessary to cut a foot deep and to move the dirt from 50 to 400 feet. In one instance a hole was filled with dirt hauled on an average of 400 feet at the rate of 65 yards per hour at an approximate cost of one-half cent per yard. In another case a grade for a ditch about 600 feet long, 24 feet wide, averaging about 18 inches high, pulling the dirt an average haul of 200 feet, was made in nine hours at a cost of 5 cents per yard for moving the dirt. These costs are figured on a rental of \$35 per day for the Caterpillar and an allowance of \$5 per day for wear and tear on the Giant Scraper.

Mr. Humphrey states that the Caterpillar and Giant Scraper easily performed the work of sixteen to eighteen horse scrapers on ordinary hauls, and of more where the haul was longer. In building the borders the efficiency of the outfit was markedly demonstrated, when sixty-five acres were bordered in less than three-quarters of a day, doing the work of at least forty scraper teams.

There is no question but that this machine will fill a long-felt need on the whole Pacific Coast wherever it is necessary to level and check land for irrigation, and the rougher the land the more effectively will the machine perform economically.



Cut Your Harvesting Costs

When your grain is ripe you ought to hustle to get it harvested. With a Caterpillar Tractor hitched up to a Combined Harvester you can do the job quicker and easier than in any other way. Such an outfit will usually cut and thresh 50 to 125 acres a day with five men and no horses, for 50c to \$1.00 an acre.

CATERPILLAR

Reg. U.S. Pat. Off.

The Caterpillar has abundant power and hauls a harvester steadier than horses can. It costs less to maintain than a big camp of horses. It is always ready for use. It is never affected by hot weather; never makes long stops to feed; wastes no time in being hitched up; works in twenty-four hour stretches if necessary—harvesting in the daytime and hauling grain at night.

With the Caterpillar you can safely harvest on any soil. The long, wide Caterpillar tracks distribute the weight of the machine so that it travels easily over loose, wet or ashy soil where round-wheel tractors can not possibly work. And you can use the Caterpillar safely on steep hill-sides. It is built low—you can't upset it on land you can farm at a profit.

Besides harvesting, you can do your summer-fallowing with the Caterpillar. Use it for harrowing, discing, deep plowing.

Two-thirds of all tractor owners on the Pacific Coast are using Caterpillars. They find them easy to operate, cheap to maintain,—big money savers.

Write our nearest branch for Bulletin EC 52 giving full Caterpillar information and news of our latest improvements in construction; also for catalog of Holt Combined Harvesters.

Everything for the power farmer—harvesters, disc and moldboard plows—harrows, scrapers, supplies.

The Holt Manufacturing Company, Inc.

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Spokane, Wash.	Portland, Ore.	Peoria, Ill.
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PACIFIC GUERNSEY HERD

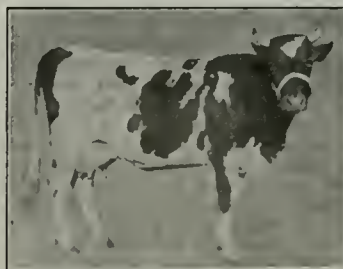
Offers for sale the sire GLENWOOD OF ROSENDALE (14051), a direct descendant of the great Glenwood family, a strain that produced MIRANDA OF MAPLETON (A. R. 914), 927.16 pounds fat, DAIRYMAID OF PINEHURST (A. R. 843), 910.67 pounds fat.

Dam, COUNTESS FANTINE (A. R. 344), 502 pounds fat at 2½ years, 582 pounds fat at 3½ years. Sold for \$875.

GLENWOOD OF ROSENDALE is a fine individual, and is guaranteed in every way.

Also offer four choice bull calves, ranging in age from 2 to 8 months. If interested, address

C. S. RASMUSSEN, LOLETA, CALIFORNIA



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OF REGISTERED

GUERNSEYS

Owned by Chas. G. Lathrop, Stanford University, Cal. A number of mature cows, some of them imported, bred and unbred helpers, and some choice bulls. A number of the helpers are bred to Violet's Pride of Iowa, whose grand-dam has an A. R. record of 912 pounds butter-fat in one year.

Inquiry or inspection invited.

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JOHN LYNCH Petaluma, California

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IT HAS NO EQUAL

For the Human Body—It is penetrating, soothing and healing, and for all Old Sores, Bruises, or Wounds, Felons, Exterior Corns, Boils, Cuts, and Burns. **CAUSTIC BALSAM** has no equal as a Liniment.

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

A Perfectly Safe and Reliable Remedy for Sore Throat, Chest Cold, Backache, Neuralgia, Sprains, Strains, Lumbago, Diphtheria, Sore Lungs, Rheumatism and all Stiff Joints.

REMOVES THE SORENESS—STRENGTHENS MUSCLES
Cornhill, Tex.—"One bottle Caustic Balsam did my rheumatism more good than \$120.00 paid in doctor's bills."
OTTO A. BEYER.
Price \$1.00 per bottle. Sold by druggists, or sent by express prepaid. Write for Booklet B.
THE LAWRENCE-WILLIAMS COMPANY, Cleveland, O.



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Shaw Bunch Rakes
Made especially for heavy work that no other rakes are fit for. Primarily made to bunch hay out of wind-rows, also to do any heavy work such as raking corn stalks, sage brush, etc.
High wheels, rigid teeth, strong, rigid frame.
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VETERINARY

Conducted by D. S. KAY, D. V. S.

Questions relating to the health of farm animals will be answered in this column free of charge. Where an immediate reply by mail is desired, a fee of \$1.00 should accompany the questions. Address all communications to Veterinary Department, The Live Stock and Dairy Journal, Sacramento, Cal.

The Live Stock and Dairy Journal—
Would like to ask a question in regard to a young mule that I have. She has seed warts on her, and I have tried several treatments and they seem to do no good. What can I do to remove the warts?—L. A. H., Stanislaus County, Cal.

You do not state how large an area is covered with warts. However, paint them daily with the following, which can be made up at the drug store:

- Ol. Racini, 3 ounces.
- Ol. Origanum, 2 drams.
- Ol. Mirbane, 2 drams.

Apply daily with a brush to the warts.

Give internally the following:
Liquor Potassii Arsenate, 1 pint.
Give this in doses of half a tablespoonful daily for a 2 year old mule, or half a tablespoonful daily for a mule 3 years or over. If the warts are still there after this treatment, wait two weeks and repeat treatment.

The Live Stock and Dairy Journal—
What method is most advisable to follow in the case of a heifer with first calf that I have. I bought this heifer for a good price, but she has been unfortunate in coming fresh, as she only milk from three teats, the fourth one giving no milk. She has two smaller teats at the back of her udder, and both give milk, but are rather unhandy to get at. I would like to know if it would be advisable to try opening up the larger teat that does not milk, or to leave it alone, using only the three large ones and drying off the two small ones at back of udder. We thought of having the dry teat opened, but we are afraid of ruining the udder and spoiling an otherwise good cow. She is giving six gallons of milk per day with first calf. Her mother milks from four good teats, but has no small ones like the heifer. She is Jersey and Durham stock.—Mrs. J. W. F., Sacramento County, Cal.

If there is no heat, pain or swelling in the bad quarter, let it alone. If these symptoms are present have the teat operated upon immediately by a graduate veterinarian. Dry up the small teats at back of udder, as you will sooner or later have trouble with them.

The Live Stock and Dairy Journal—
I have a horse that is cobbler sore. He has improved since bringing him to the ranch, but there is considerable soreness in the soft part of the hoofs just under the fetlock. What is the cause, what the remedy and what the prognosis?—J. G. R., Placer County.

Your description is not specific enough. I would think your horse has a side bone lameness, or contracted heels. I would suggest that you have both quarters of the hoofs rasped down well till the hoof pits on pressure. Blister the junction of the hoof and hair with creosote of Cantharides every week, and use a bar shoe for frog pressure, with a tar and oakum pack kept in place with a piece of sole leather. Keep the toe short and have the hell of the shoe 1/4 inch thicker than the toe. This will remove tendon strain and give rest to the horse.

The Live Stock and Dairy Journal—
I have a few hogs about 10 months old that I castrated some time last summer, and some of them have grown

a big lump where they were cut, and I don't know that the cause of it is. I would like to have you inform me about it through the next issue of the Journal.—J. Z., San Mateo, Co., Cal.

The hogs have a tumor formed on the end of the cord, through faulty castration. In future make your outside incision longer for drainage, and after removing the testicles, paint the cavity with pine tar 1 part, sulphur 1 part and linseed oil 5 parts. This will keep flies away and be antiseptic. Use only a clean knife, and keep the parts clean as well as the hands of the operator. Turn the hogs out clear of water pools, and you will have no trouble. Have your local veterinarian remove the tumors and you will get a better price for the hogs you now have.

The Live Stock and Dairy Journal—
What is good for eradicating lice from a boar that I just purchased from a neighboring ranch? He is just covered with lice and eggs. I tried sheep dip but that did not seem to help any.

Mrs. M. E. F., Mono County, Cal.

Many of the coal tar dips give good results usually, but you should have a dipping vat by all means if you are raising more than a few hogs. The advantages of growth and good health which a lice free hog enjoys, are well paid for in increased pork production. With a dipping vat you should get good results with a number of the commercial dips, and stock should be dipped once every two weeks in spring and summer.

Kerosene emulsion is one of the best dips known for freeing hogs of lice. It is quite easily made, and is certain to give good results. The thing to guard against in making it is to use especial care in following directions, otherwise the oil will not stay emulsified. The following directions, if carefully followed, will result in a successful mixture:

Take 2 gallons of kerosene, 1 gallon soft water, 1/2 pound of soap. Shave the soap first and dissolve in water with the aid of heat, stirring well until the soap is thoroughly dissolved. While the solution is still hot, add the kerosene gradually stirring vigorously at the same time. The success of the emulsion depends very largely upon this part of the process. A mistake commonly made in emulsifying the kerosene is to try to stir too large a quantity of the mixture at one time. It is best to work only a bucketful at one time, and to whip this thoroughly as the kerosene is added. One gallon of this emulsion may be used to twenty gallons of water for dipping. There should be no trouble in using common laundry soap, although it is claimed that whale oil soap is more satisfactory.

Besides dipping your hogs you will find a rubbing post of great value in your yard. A good post is provided by taking a hardwood post and setting it firmly in your yard. Bore a two-inch hole down into the post to within twelve or fourteen inches of the ground, and then bore a smaller hole crosswise through the post and at the lower end of the larger hole. At this point wrap and tie a gunny sack around the post, or wind it with old frayed rope. Fill the hole in the post with crude oil and you will have a rubbing post that will amply repay you for the small cost and trouble of fixing it.

Barren Cows

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Southbound.	Leave	Arrive	Arrive
No.	Sac'mto	Lodi	Stock'n
7	7:10a	8:45a	9:00a
13	9:10a	10:50a	11:05a
17	10:15a	11:45a	12:00p
23	12:15p	1:45p	2:00p
29	2:10p	3:45p	4:00p
35	4:10p	5:50p	6:05p
41	6:20p	7:53p	8:10p
47	9:00p	10:34p	10:55p

Northbound.	Leave	Leave	Arrive
No.	Stockton	Lodi	Sac'mto
4	6:00a	6:00a	7:55a
10	7:46a	8:00a	9:35a
18	10:00a	10:05a	11:45a
22	12:05p	12:20p	1:55p
26	1:45p	2:05p	3:35p
34	3:45p	4:05p	5:35p
40	5:45p	6:05p	7:35p
46	8:30p	8:40p	10:20p

STOCKTON-LODI SERVICE.
Leave Stockton, A. M.—5:10, 6:05, 7:00, 8:00, 9:00, 10:05, 11:05.
Leave Lodi, P. M.—12:15, 1:10, 2:00, 3:00, 4:05, 5:05, 6:05, 7:10, 8:30, 9:55, 11:20.
*Daily except Sunday.
Leave Lodi, A. M.—12:05, *6:05, 7:00, 8:00, 9:00, 10:05, 11:05p.
Leave Lodi, P. M.—12:20, 1:00, 2:05, 3:00, 4:05, 5:00, 6:05, 7:00, 8:40, 9:10, 10:37.
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THE HORSE

GLANDERS

Written for The Live Stock and Dairy Journal by D. S. Kay, D. V. S.

Synonyms.

Malleus, Farcy, Morve, Rotzkrankheit.

Characterization.

Glanders is one of the most important diseases of horses, asses and mules, and when transmitted to man, one of the most fatal diseases of the human species. It runs an acute or chronic course, attacking the lymphatic system, more especially the upper air passages, lungs or skin. The disease has a tendency to form nodules, which degenerate rapidly, forming ulcers which discharge a sticky pus. The skin form of glanders is known as farcy. In acute forms of the disease there is rapid rise of temperature and debility, which might be mistaken by the owner as some other disease. Hence the danger to the human species. By inoculating other animals the disease can be produced in such animals as the goat, rabbit, sheep, guinea pig, field mouse and wild animals of the cat tribe. Cattle, white mice and fowls are immune.

History.

It was thought at the beginning of this century that glanders was not infectious, owing to lack of knowledge along the line of study of germs. Other diseases such as strangles and abscess forming diseases when let go were the forerunners of glanders. However, recent researches have proved conclusively that the disease is a specific infectious one, due to the glanders bacillus. The germ is found in all pus discharges from the nose of the animal with the disease, as well as in the nodules and ulcers on the skin lesions, proving that farcy (the skin form of glanders) and glanders, the internal form, are one and the same disease.

The disease is distributed all over the United States, Canada and Mexico, as well as in most countries of Europe. Australia, New Zealand and Tasmania have never reported cases, owing to their preventive measures and quarantine of all horses before entrance to their ports.

Symptoms.

Acute glanders is ushered in with a chill, rise of temperature, a profuse muco-purulent discharge from the nose, usually mixed with a little blood, and often from only one nostril. The breathing is rapid, and resembles pneumonia breathing. Small nodules may appear on the nose, which later rupture, forming ulcers with a concave surface, surrounded by a red ring of infiltrated mucous membrane of the nasal cavity. The discharge has a greyish green color and resembles the white of an egg. This discharge contains the germs, and is the prime factor in spreading the disease around. The glands of the region of the throat and under the jaws become enlarged and nodular. The course is rapid, and usually proves fatal in from five to fifteen days.

Chronic Glanders.

The symptoms are the same as in the acute form, but the disease is slower in its manifestation, and the symptoms are not as severe, are more drawn out, and the outcome is slower. Ulcers appearing on the nose will heal over, leaving scars that remain

as evidence. Swelling of the legs and a chronic cough are symptoms. The lungs are usually affected. Objective symptoms may or may not be present. Chronic glanders may develop into the acute form with fatal result. This is due to lack of resistance on the part of the body cells, or to a new lesion in another part of the body.

Anatomical changes brought about by glanders can be dwelt upon at great length, but this will become confusing to the reader. They may be described as follows:

There is a breaking down of the respiratory mucous membrane, ulcer formations, which may or may not be healed over, leaving scars, perforations are common, tenacious mucopurulent discharge from the lungs and whole tract, swelling and nodules of the jaw region and under the tongue. In farcy the nodules of the skin and swellings of the hind legs, and of the testicles of the male.

Human glanders is important to the owner of the stock. The lesions produced are on the hands, lips and conjunctiva (eye). After infection has taken place by abrasions of the skin, fever is the first symptom, followed by a nasal discharge, pustules and abrasions of the skin, ulcers of the nasal mucous membrane, swellings of the joints and grave general disturbances. Death takes place in from two to four weeks, but the disease may take a chronic course. Treatment is usually of no avail. The only hope is for those with a purely local course or form, when deep cauterization is curative. Some hope may be found in the strong arsenical preparations as that which is being used in syphilis, namely, Diocydiamidoarsenobenzol, or Salvarsan, as it is commonly known.

Diagnosis is made usually by Mallein, the toxin of the organism. This, when brought in contact with the infected horse, causes an irritation, which is noted as a reaction.

The Subcutaneous method consists of injection of a dose under the skin, which causes an elevation of temperature, swelling at the point of injection and systemic disturbances.

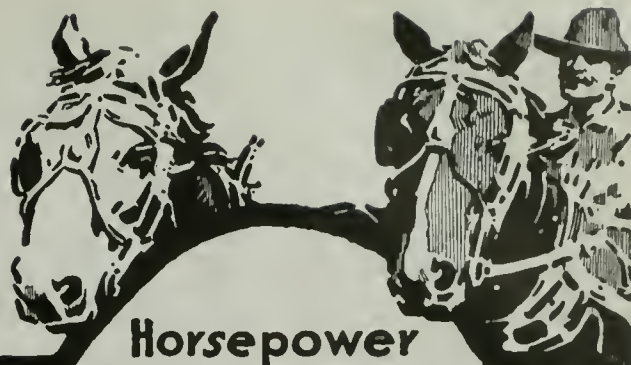
The Ophthalmic method is by dropping the dose of a concentrated 1-10 concentration glycerine free solution in the conjunctival sac, which in five hours produces a severe purulent conjunctivitis.

The Agglutination method consists of a blood analysis, and is of a laboratory nature, and may be used in conjunction with the other tests.

The Struss method consists of the injection of a male guinea pig with the suspected pus, and is a sure but slow method. All methods have their advocates, and all are good when properly carried out by the proper persons.

Prevention.

Isolation of infected animals should be at once done, and the disposal by killing is the only course. The ones that seem to recover are chronic cases and form a source of fresh infection. Disinfection should be carried out in all the stables and watering troughs, and the notification of the State Veterinarian should be made at once so that he may investigate and prevent the spread of the disease by intelligent quarantine measures.



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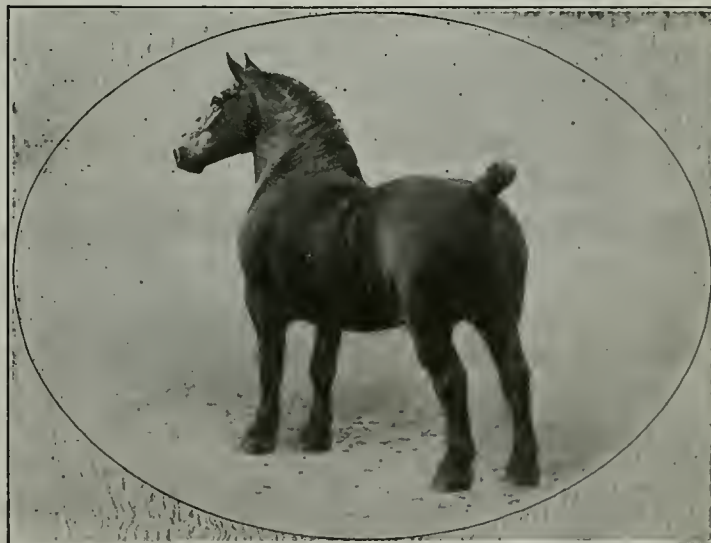
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McLAUGHLIN PERCHERON COMPANY

All communications in reference to live stock at Panama-Pacific Exposition should be addressed to D. O. Lively, Chief of Department of Live Stock, Exposition Bldg., San Francisco.

1915 LIVE STOCK NOTES

Within the next thirty days a preliminary classification and prize list of the Exposition will be ready for circulation. Copies will be sent to anyone who is interested.

D. O. Lively, Chief of the Department of Live Stock, has returned from a six months' absence, having visited the principle state fairs last fall, after which he made a trip to South America as special Exposition Commissioner. The progress of the live stock industry in South America is nothing short of marvelous. Special encouragement is being extended to breeders of cattle in several of the South American republics, and the opportunities for investment in large cattle ranches are numerous.

The Imperial Ottoman Adj. High Commissioner, Hon. Vehan Cardashian, makes the assurances that Turkey will exhibit a stable of Arabian horses, some extra fine specimens of Cyprus jacks, Angora goats and sheep.

Hon. Mirza Ali Kuli Khan, who officiated at the site selection for Persia, has made assurances that his government will exhibit Tat Tail Persian sheep and Arabian horses.

In the South American exhibit will be a herd of Llamas from Bolivia. These useful burden-bearing animals are to Peru and Bolivia what the reindeer is to the Arctic regions. There will probably also be included alpacas and vicuñas, fur-bearing animals.

The Argentine Commission to the Exposition has cabled for the final distribution of prize money incident to live stock. Subject to quarantine restrictions a notable live stock display will be made from that country.

Widespread interest in polo has caused the Panama-Pacific International Exposition to give recognition to that sport, and a commission of polo players will go to Europe to extend an invitation to the crack polo teams to participate in a universal meeting to be held at San Francisco, the beginning of March, 1915. A like invitation will be extended to the polo clubs in the United States. From assurances already received, the polo tournament at San Francisco will be the greatest event of its character the world will have seen.

The Harness Race Meetings to be held at the Exposition next year continue to attract much attention. The track is practically complete and will be used this summer and fall to get it in perfect condition. A number of prominent racing stables have signified their intention of wintering at San Francisco track, where stable accommodations will be provided for them.

Advices from Ohio are to the effect that \$25,000 has been appropriated for a live stock exhibition at the Panama-Pacific International Exposition.

The Honorable C. E. Clifton, Panama-Pacific International Exposition Commissioner from New Zealand, is now located in San Francisco. He states that his country will send out a good sheep exhibit, including specimens of Corriedales and Romney

Marsh. There will be cattle exhibits from New Zealand as well.

Recent contributions to the Department of Live Stock as supplemental premiums are \$6000 from the American Aberdeen-Angus Association and \$1,000 from the American Shire Horse Association.

Ora Overholser of the American Black Orpington Club personally offers a fifty-dollar silver cup for the best black Orpington shown at San Francisco.

The American Buckeye Club will offer at least \$50 in cash as supplemental premiums in addition to a silver cup and ribbons.

The National Columbian Wyandotte Club offers \$50 in cash premiums in addition to a full set of ribbons.

The Rose Comb White Minorca Club will offer ribbons and attractive cash prizes.

The Silver Wyandotte Club of America offers \$50 in cash.

The members of the American Buff Plymouth Rock Club will compete for a special Panama-Pacific International Exposition cup.

Cash specials will be arranged for by the International Single Comb Rhode Island Red Club.

Special ribbons will be given by the Rose Comb White Minorca Club.

Members of the National Bourbon Red Turkey Club will compete for cash prizes and special ribbons.

NEW LIFE

For several years we have attended the annual meeting and banquet of California Live Stock Breeders' Association, listened to many enthusiastic speeches about what ought to be done for the great breeding interests of the State, and gone away believing that the Association was finally in a way to accomplish really big things. But through it all the walls of the Palace Hotel have never yet allowed any of the enthusiasm to get outside, and it has remained there bottled up, to be exercised only once a year at the pleasant meetings of the Association. At present, however, there is every indication that a real dose of ginger has been injected into the body of the Association, and we have higher hopes than ever before that the Association is at last on the road to substantial accomplishment. We have for several years advocated the employment of a salaried secretary, for it is upon this officer that the bulk of the detail work of the Association will fall. Mr. F. J. Sinclair, who has served the Association as Secretary for many years, has given his time without remuneration, and it is neither just nor proper that such a service should be asked of any man by an organization which represents industries of the magnitude of the live stock interests of California. As Secretary of this organization, a high-grade man can find useful employment for his entire time, and the very best of his energy and thought, and the Association can well afford to pay the price of such a man. There will, of course, have to be a much larger membership than at present, but we believe that this can be secured, once breeders and growers throughout the State become convinced that there is an aggressive movement on foot.

At a meeting of the Executive Committee of the Association, held in San Francisco, April 4th, it was decided to employ a salaried Secretary, and the dues for membership were fixed at \$10 for the year. D. O. Lively, Chief of the Department of Live Stock P.-P. I. E., was appointed a committee of one to submit the name of an available man to the Executive Committee, and we feel confident that Mr. Lively's recommendation will be a good one. In the meantime let none of us fail to send in our membership fee and give the new born Association a good, healthy start.

100 Shetland Ponies

I have what I believe to be the best lot of fancy colored Shetlands in America—Spotted Ones—Blue and White—Bay and White—Black and White—Chestnut and White, also solid colors—including a number of snow-

A number of Welsh Ponies both mares and geldings.

white ponies which are very rare; also a number of mares which will have colts soon.

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SHEEP

The Merino in General Sheep Industry.

Recently in discussions in the press and by many men who profess a wide knowledge of the industry have been weird prognostications of the fate of the Merino in the general sheep business of America, and some have gone so far as to claim that he must go, and henceforth American pastures must be given over to the English mutton breeds. Many seem to hold a mistaken idea that a Merino sheep bears only wool, that his carcass is something different from mutton and is not fit for human consumption. Carrying this idea still further they seem to think that wool has ceased to be an item of revenue in the sheep raiser's returns.

On every hand we hear this free advice that sheep must be raised for mutton only and that every man who grows sheep must cross his flock with a mutton ram. Some prominent men in the range sheep business have not failed to advertise the fact that they are eliminating the Merinos from their outfits. Evidently assuming that their peculiar individual conditions are general, they intimate that greater profit is to be thus obtained, and advise others to follow their course. Some say that the Merino sheep of America have been ruined by improper and careless breeding. Because of the importance of its position in the general industry the Merino has suffered most from the prevailing weakness of the business and the men engaged in it is not the fault of the breed. The real constructive Merino breeders in America seem to be improving their sheep, if we judge by the demand for their rams from progressive sheepmen not only in this country but even in foreign lands. We have learned of no other breeds going from America over seas.

Perhaps these pessimists are right. But unless this results differently from some of the other recent dire predictions of these prophets which have failed of fulfillment, we believe the majority of sheepmen who labor under general conditions would do well to consider all the factors which attend their own business before casting out the Merino blood from their flocks. We are not breed cranks nor do we deny any breed its proper place, and that it has a purpose to which it is best adapted, nor yet do we claim that any one breed is best fitted for all conditions. But in view of the persistent attacks upon the Merino which has been the foundation of nearly all profitable sheep growing in this country for nearly a century, we deem it time to voice a protest and call attention to a few facts.

There seems to be two main lines of attack upon the Merino. One is that he is not fit for mutton, the other that wool no longer enters into the sheep-raiser's income. As to the mutton consideration you can find in the record of almost a hundred years ago that Merino mutton when produced by proper feeds was considered a delicacy and as toothsome, wholesome meat as went across the block. Since the inception and development of the feeding industry feeders in certain sections, notably Michigan, which has probably fed sheep and lambs longer continuously and in as large numbers as any state in the Union, have always shown a marked predilection for sheep and lambs strong in Merino blood. They have made profitable gains and commanded top prices on the largest markets. Even where crossbred lambs have been sought and handled the foundation has always been Merino,

and it has been the dominant Merino characteristics which have made such lambs desirable feeders and profitable to all who handled them. Who has advocated a cross of any other character, or even sought the purebreds of any other breed to handle and feed in large numbers?

When you put a bunch of lambs on feed those strong in Merino blood are the ones that are hardy, always ready to eat, and make good use of their feed. When they go out to the grain troughs there is not 10 per cent of them going to view the scenery, or look through the fence, or hunt a rock or board on which to clean their nose. Those Merino lambs have their heads at the grain trough. Likewise at the hay rack and in the pasture. They are not afraid of one another's company, but stay in one flock. They gain in weight. They grow and get fat. At the Illinois Experiment Station one fall they made a test of the various breeds on pasture, given the same care and the same feed, and the Rambouillet lambs gained more in the same time than any others. Speaking of gains, in the fall of 1913 Frank Kleinheinz, than whom there is no better nor more practical shepherd at any experiment station in this country, among a lot of lambs he was feeding, had two Rambouillets, and he declared that he never fed two lambs of any breed that ever made any such gains. He has tried them all, makes a show of fat lambs at the International every year, and carries away a majority of the ribbons in the fat classes.

Some people look wise and say, "That's all right, but they don't dress out. Their meat is no good." Indeed! In the carcass contest at the 1912 International the judge, to say nothing of the ordinary man, could not distinguish the Rambouillet carcass from the lot before him; he could not pick it out and say, "This is it." More than that, at the last International the Rambouillet carcass from the University of Wisconsin actually outsold the Shropshire carcass which had been produced beside it. If the best carcass judges and the most critical meat purveyors cannot distinguish Merino mutton from others, who can? Simply because a sheep bears Merino wool is no reason that its meat is not proper and wholesome food. And yet some of the enthusiastic partisans of other breeds would have us believe such to be the case.

Because of recent political changes which have resulted in a complete renovation and re-establishment of the basis of the revenues of this great government, the sheepraiser has been placed in open competition with the cheap and unpaid labor of the world in marketing his products. In this

process it seems as if wool were the more affected, and many men boldly proclaim that wool is no longer to be considered as a valuable part of the products of his flock. Proceeding on this assumption they continue and declare that Merinos have no further place in the business because Australia or some other country can raise better fine wool for less money. They fail to recognize other considerations which enter into this proposition. They refuse to regard the necessity of those essential Merino characteristics which have been demonstrated to be necessary to most profitable sheep raising under general conditions throughout this country.

Aside from the fleece which must always be some consideration at present prices, these other essentials must be given the importance due them. Those inherent Merino qualities of hardness, longevity, ability to grow and thrive in large numbers, the ease of handling in sizable bands, and their remarkable adaptability to changing conditions has always made them the foundation on which the successful American sheepman has built his business. "The ideal range sheep is the large and smooth Merino," declares a man who has had wide experience for many years and who handles and breeds both, black faces and long wools. The man who bred and exhibited the grand champion load of lambs at the last International says: "The greatest success in general sheephusbandry is where not more than half-blood coarse wool is used. At least one-half of the blood must be Merino." "They will have to get back to the Merino ewe if they want to raise good stuff and make money," declared a prominent sheep salesman who has watched the market end of the business closely for many years. The testimony of men who have been and are acknowledged leaders in the industry corroborated by innumerable witnesses of lesser prominence but none the less successful proportionately in their business cannot be disregarded by he who would be governed by the facts.

As to wool there are some factors to be considered. For several years there has been a world-wide movement in the sheep industry to use mutton rams and produce crossbred wools. This has been favored by the demand for mutton and the dictates of fashion which have been insisting upon rough fabrics which require these coarse wools. Lighter shrinking and bringing

more per grease pound; many growers have imagined that they were more profitable than the heavier fine wools, regardless of the fact that the number of pounds per head was much less. Crossbred wools have been forming the larger part of the market supply and in most active demand. The latest reports from foreign markets advise that Merino wools are in strong demand at advancing prices, while he who would be in style learns that the smooth cloths made from the fine wools are the latest proper thing. Just when one thing seems to be the popular choice just about that time something entirely different is brought forward as correct and most to be desired, many times because it is difficult to secure. Who knows that is not soon to be the case with fine Merino wools?

We do not claim the Merino is fitted to all places; to do so would be to deny the merits of other breeds. We know there are sections as in Idaho where abundance of water and luxuriant mountain range produces wonder-

(Continued on page 20)

Frank A. Mecham

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First Prize Ewe Lamb at Omaha.

BEEF CATTLE

The United States Government Meat Inspection

(By Veranus A. Moore, Ithica, N. Y., at 17th Annual Meeting U. S. Live Stock Sanitary Association.)

There is no public service in which sanitarians should be more interested than in the United States Government Meat Inspection. There is no other protective service in connection with food production that has been more difficult to establish, that has had greater obstacles to overcome, that has made more rapid progress and that has protected more people. Although the first legislation relative to federal meat inspection—that of August 30, 1890, and March 3, 1891—pertained more to the finding of a market for our pork and pork products than to safeguarding the people against unwholesome meat, it was the beginning of what has developed into a Federal Meat Inspection which compares most favorably with any other in the world. This is a strong statement, but it is not made with a spirit other than that of genuine appreciation that our government officials have profited by the experience of the pioneer nations in this work and have incorporated as far as possible the best of modern methods on the subject.

The law of 1906 authorized the Secretary of Agriculture to prescribe regulations for the careful inspection, for disease of animals at the time they are slaughtered; to require the packing houses to be kept in a sanitary condition; and to inspect all meat and meat products before they are placed on the market. This authority applies only to those establishments which are engaged in export or interstate trade. Following the enactment of this law, it was necessary for the Department of Agriculture to prepare and enforce regulations to cover the three essential points, viz., the inspection of carcasses; the sanitary control of the establishments; and the re-inspection of the meat and meat products.

The efficiency of a meat inspection service depends upon two important factors, viz., the comprehensiveness of the regulations and the thoroughness with which they are enforced. The sanitary value and justice of the regulations against insanitary handling of meat are measured by the extent to which they embody protection against sanitary handling of carcasses and the effect of diseased and spoiled meat upon the consumer; and the degree to which they are enforced rests with the executive, educational and moral qualities of the inspectors.

In the growth of the present government regulations, it should be stated that under the legislation enacted prior to 1906, the Secretary of Agriculture had issued regulations relative to the inspection of animals before and after slaughter, and had prescribed rules for the condemnation of carcasses because of disease and injuries. These are known as Bureau of Animal Industry, Bulletin No. 9 (1895), Order No. 33 (1899), Order No. 125 (1904), and Order No. 137 (1906), and various amendments thereto. In the formulation of that part of the regulations pertaining to the diseases of animals and the physical conditions that should condemn the carcasses, the experiences of other governments, especially Germany, were drawn upon. After the law of 1906, which extended the authority of the Secretary to the sanitary control of packing houses and to the inspection of the preserved meat and meat products, he appointed a commission to revise the regulations that were in force at the time the new law went into effect, concerning the

inspection of animals for disease. This commission was headed by Professor W. H. Welch of The Johns Hopkins Medical School. The commission recommended certain changes in the regulations then in force and these were adopted by the Department. The regulations of 1907, known as Order No. 150, and which are still in operation, are more rigid than those of other countries, in that they do not provide for the sale, under prescribed restrictions, of certain classes of meat which other countries utilize. The principle underlying these regulations is that if an animal is diseased or injured in such a way that its flesh may be dangerous or unsafe for the consumer, its carcass shall be condemned. The regulations give the consumer every possible protection. The extent of this protection is illustrated by the last report of the Bureau of Animal Industry, which states that during the year 1911 Government inspection was carried out in 939 establishments, located in 255 cities and towns. There were 52,976,948 carcasses inspected, of which 117,383 were condemned and 82,710 passed for tallow and lard. In addition to the inspection of the carcasses at the time of slaughter, 6,934,233,000 pounds of meat and meat products were inspected and of these 21,073,577 pounds were condemned.

The qualifications of the veterinary inspector are assured by the requirements imposed by the Government that, first: He must have graduated from a recognized veterinary college, and, secondly, that he must have passed a civil service examination in veterinary medicine. Again, to insure for the inspector a more thorough scientific training, the Department, some years since, prescribed the minimum requirements, in the way of curriculum, equipment and teachers, for the veterinary colleges whose graduates are eligible to take the examination.

In organizing the Meat Inspection Service under the law of 1906, the Government secured trained and experienced men to assist in formulating regulations for the guidance of the inspectors. Likewise, the veterinary inspectors have been taken from those who have qualified by their special training and who have been successful in a competitive, technical examination. The meat inspectors are also trained men and skilled in the detection of tainted or sour meat. I do not know of any better mechanism for securing an efficient public service.

The sanitary control of the packing houses presents difficult problems. In many ways they are more trying to deal with and harder to overcome than the inspection of the carcasses. The meat business, in this country, began in a small way and after the fashion of the country butcher. The killing and dressing of animals for food has always been looked upon as a disagreeable task; because of the dirt and blood associated with it, the inference seems to have been that the work should be done in a dirty place. With the growth of our population, business rapidly increased and necessitated such repeated additions to the slaughter houses that at the time the present law went into effect there were many large, poorly planned, dark, unventilated structures. They conformed, however, to the general idea of the meat business at the time they were built and the public did not object to them then any more than the masses do now to the local uninspected slaughter houses. The law of 1906 required that the packing houses having Federal inspection be made sanitary. In response to this, the worst of the build-

ings were in some cases condemned and in others were voluntarily replaced by new structures. The better ones were more or less remodeled. Windows and skylights were put in, the old half-rotten wooden floors were replaced by brick or cement. The walls were either cleaned and painted or were rebuilt with brick, tile or cement. Toilets and dressing rooms for the men were put in, and ventilation, water and drainage were supplied. Suitable benches, tables and trucks were provided for holding the viscera and for handling the meat. A system was instituted for frequent and thorough cleaning of the floors, walls and all tables, trucks and implements. The coolers were repaired. The wagons for transferring the meat were kept clean. In fact, a great change took place. Actually millions of dollars were spent in bettering the conditions for the more sanitary handling and preserving of the meat and meat products. This work is still in progress. I have personally observed in New York, Buffalo and Philadelphia extensive building operations in connection with the packing house business and I am informed that the same is true in other places. While there still remain old buildings, there is not to my knowledge a single packing house having official inspection that is not kept clean and in such a sanitary condition that meat can be handled within it in a wholesome manner. I know of no other industry where such large expenditures have been made in so short a time to improve the conditions for protecting the product.

In the evolution of our meat inspection service teachers as well as pupils have had to learn. Nowhere in Europe is slaughtering done on so large a scale as in this country. There is still much to learn about almost every feature of the packing house business with reference to the best facilities and methods of inspection. But the splendid co-operation usually existing between inspectors and packers will hasten the time when throughout the establishments the most desirable equipment will be installed and the most sanitary methods for inspecting and handling the meat will be employed.

Although the Bureau of Animal Industry has enforced a thorough meat inspection, with every year showing improvement over the previous one, there have been numerous and unjust criticisms of the work. Its very success is a challenge to the destructive

critic. There is no one more familiar with the weak places in this service and the difficulty in correcting them than the Department itself. Seven years ago our Government stepped into the business offices of hundreds of establishments and practically said to the proprietors, "You must submit to our directions regarding the condemnation of carcasses and preserved meats. You must put your establishments in a sanitary condition. You must do as we say or you cannot continue your business." More trying than persuading the packers of the justice of this new regime was the necessity of employing hundreds of inexperienced veterinarians to enforce the new law. This was a herculean task for the Department of Agriculture. However, the law was obeyed and a great reform took place in the sanitary methods of handling and inspecting meat. While criticisms have been frequent, I have failed to see in the public press any statement concerning the splendid work of the Department, and the wonderful progress which has already been made in safeguarding slaughter houses have been transformed under inspection into sanitary places where meat is handled in a cleanly manner. The packers have learned that good sanitation in their places of business is a valuable asset. The meat inspection service can never be perfect because of the human element involved. Accidents will happen, mistakes will occur and errors in judgment will be made. These will exist under any system that can be devised.

An analysis of the criticisms will show that they are petty, being based on some error or accident, or more general attack upon the service. They are largely along two lines—namely, administrative and faulty regulations. The administrative complaint has been largely in connection with the Service Bulletins. A careful study of these bulletins shows that they are virtually of instruction from the Chief of the Bureau to the inspectors and necessarily are not of general interest to the public. They are in the interest of efficient inspection and nothing else. The objections to the regulations seem to be confined to the fact that the flesh from animals in which there are certain localized infections or injuries is allowed to pass into the meat supply. These criticisms are based on the aesthetic rather than the sanitary consideration of the subject.

The time seems to have come when

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a statement of a few principles which should control meat traffic and meat inspection would be helpful. The purpose is to care for animals in such a way that they will remain well, and when they are dressed for human food, to handle the carcasses in a cleanly manner. The inspection implies that they shall be condemned if they are found to be diseased and passed if they are sound. It is well to remember that technically these are relative terms. The so-called sound bullock may be carrying in his intestines the bacilli of tetanus, botulism and malignant oedema. If from the south, his blood may be able to produce Texas fever in susceptible cattle; his heart muscle may be loaded with sarcosporidia; and the walls of the stomach and intestines may be infested with animal parasites. More than this, there may be the organized remains of pneumonia, pleuritis or peritonitis and the scars of former fractures of ribs and limbs may be found.

Among the infectious transmissible diseases may be mentioned anthrax, rabies, foot and mouth disease, tuberculosis, paratyphoid infections and trichinosis. The flesh of animals infected with these diseases is not known to be dangerous to man after thorough cooking, if we except those affections due to the group of paratyphoid or paracolon bacilli. This statement has a broad historical basis, for in centuries past, flesh from animals thus affected was frequently or even regularly consumed. Each disease has to be considered by itself, if we wish to single out and define the danger to man. The real danger in such diseases as anthrax, rabies and glanders lurks in the handling of the carcass and in eating the uncooked meat by the unsuspecting purchaser, and in the further dissemination of the specific infection. Hence all traffic in any or all portions of carcasses affected with these diseases is prohibited. Trichinosis is harmless to manipulation, but highly dangerous as an uncooked food.

An examination of the field of animal pathology shows that we actually have few ideally healthy animals. It is hardly to be expected that we should have. The abnormalities encountered are of many kinds, ranging from mere carriers of virus stages of local or general diseases. The trained inspector's function is to save meat wherever that can be done, rather than to reject it. The process of rejection is easy, but there would be little meat handled and sold if every minor blemish were counted against the animal.

As a result of this state of affairs, we find inspection of meats governed by different regulations in different countries. The meat inspection laws of Germany are far less exclusive, but at the same time more highly developed and worked out in more minute detail than in this country. As Smith has pointed out, diseased meat is there defined solely in accordance with the potential danger to the health of the human species and to other still healthy animals. Meat is classed as utilizable, nonutilizable and of inferior grade. A fourth class is created which is utilizable only under certain restrictions. These are, that it be sold after sterilization at a lower price and only in small quantities to any one purchaser. In Germany a considerable percentage of animals which our Government inspectors condemn are used for food.

There are many problems for the authorities to settle in the conduct of the meat inspection service and the proper classifications of meat and meat products based on their nutritive value and the physical state of the animals from which they come. The details are intricate and complicated. There are other serious questions relative to the spread of certain diseases of animals where the virus is known to be present in the tissues for several days before the disease can be detected by either symptoms or tissue

changes. These problems will eventually be solved and the troublesome questions answered if our Government inspection is continued as a scientific, non-political and strictly civil service organization.

In the final adjustment of our meat inspection a number of changes will undoubtedly be made. The economic or financial aspect of the whole problem will be of no small importance. The strictness with which animals will be condemned because of local conditions or slight disease will eventually be governed by the law of supply and demand. If our meat supply becomes a continuously diminishing quantity, our standards will change and we shall come down more and more to the question of healthfulness, irrespective of other considerations. Because of the general popular misconception at the time the present law was enacted, regarding the dangers to the human family from diseased meat, the regulations of our Government are in some respects severe. We were not ready to accept the classification of meat foods as recognized in other countries. In this work we are still young. To attain perfection in equity to the live stock owners and protection to the public from our Government meat inspection service, we must abide the ripening influence of years.

The lesson for veterinary sanitarians to learn from our Government inspection and to teach in their respective communities is the need for municipal and state inspection that will insure to the people of the country protection against locally killed meat and the insanitary methods of handling it. With our best animals going to distant markets and the others left for the uninspected slaughter houses, it is easy to understand why locally killed meat may be inferior to that of the inspected houses. A state and municipal inspection would be of great service in finding the centers of infection in our farming community, thereby making it possible to eradicate the infectious diseases from the locality. Further, it would educate cattle owners in the necessity of exercising greater care for the protection of their stock. With about 40 per cent of our meat and meat products still uninspected, we cannot hope for the maximum benefits of such a service. As sanitarians, it would seem that our first duty in this manner is to support the efforts of our Government in meat inspection and our second duty to use our influence in extending its benefits to the country as a whole by supplementing it with the institution of municipal and state meat inspection.

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(Continued from page 17)

ful fat lambs ready for the block, for which other breeds are peculiarly superior. But even with these the Merino blood in the dam has been no small factor in their great success. There are other sections which have different conditions to which other methods and other breeds may be better adapted. But for the man who must maintain his breeding flock from his increase and is subject to the average conditions throughout the range country the Merino will be found to be the most profitable for a series of years.

In the agricultural states where sheep raising has been most successful and longest maintained the flocks have been kept strong or pure in Merino blood. Where in the range country have bands running largely or nearly pure in the English breeds been maintained profitably for any appreciable length of time, without recourse to outside purchase of breeding ewes? The general conditions throughout the Western range require sizable bands, not always do they furnish overly abundant feed nor an equal, favorable climate. A profitable range sheep must be herded, it must travel, at times it must endure hardship. Does it stand to reason that the Merino which has been bred to adapt itself to such conditions for near twenty centuries is to be supplanted in those places by breeds which have been reared and developed under conditions almost diametrically opposite? Turnips and oil-cake, burdles and a man for every hundred sheep, a warm, moist climate with its attendant luxuriant vegetation are not conditions which obtain in very many places on the Western range, nor even on the Easter farm.

Mutton is the most wholesome meat produced. More of it should be consumed, and the demand for it must undoubtedly increase rapidly with time. But while it is the end of all sheep the conditions of its production must be recognized in a consideration of the most profitable form of sheep-husbandry. The bulk of the business is not handled in big outfits, nor can all growers seek other sources than their own bands from which to replenish their breeding flocks. Just now it is popular to talk about raising an exclusively mutton sheep or lamb, but following the crowd at the moment does not insure constant profit to the man who would stay in the business in the future.

We are not yet ready to believe that sheep raising can be entirely eliminated from American agriculture and live stock production, and until it is there must be some source from which

the ewe herd is renewed. It has yet to be demonstrated that crossbreeding is a practical route by which sheepgrowers can maintain and improve their flocks. It may bring profit for the moment, but the instances are few indeed where it has not ultimately resulted in either the follower of this method being forced to quit the business or begin anew. The permanent foundation which has produced a constant profit for successive years has been the Merino ewe. Until conditions of production are radically changed we must be shown that there is something better.—Roscoe Wood in the National Sheep Grower.

RESOLUTION

The following resolution was adopted by California State Agricultural Society as an expression of appreciation of its late Secretary, J. L. McCarthy:

Resolved, That in the sudden death of John Louis McCarthy the State Agricultural Society has lost the services and ability of an able, zealous and competent officer, one whose knowledge and experience were of especial value to this board, and to the people interested or engaged in developing, exploiting and advancing the resources and products of California; that in all affairs he held the confidence and respect of the Directors to a marked degree; that his character as a man and a citizen was of the highest possible standard, and that his sudden death is deemed a great loss to the State, and a personal loss to every Director; and it is further

Resolved, That a copy of this resolution, duly attested, be forwarded to the family of our late Secretary as an expression of the esteem in which he was held, and of the deep sympathy felt for them in their affliction.

(Signed):

H. A. JASTRO.

C. J. CHENU.

I. L. BORDEN.

Adopted April 16, 1914. H. E. Smith, Assistant Secretary.

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THE FARM WOMAN'S PAGE

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This department is conducted for the purpose of dealing in a helpful way with the many problems which are encountered by the woman on the farm. Household and home questions from our women readers are encouraged. Address all correspondence for this department to Aunt Marcel, The Live Stock and Dairy Journal, Sacramento, California.

INVESTMENT IN COMFORT

Money expended in providing modern improvements in the home are by no means wasted. Surely the place where we spend the greater part of the time allotted to use in this world is deserving of an outlay that will make it the most inviting and attractive place to be found anywhere. The boys and girls on the farm are the best crop. If home is made attractive there will not come to them the lure of the city.

The farmer who thinks money invested in home conveniences and comforts is wasted or made non-productive ought to consider what his farm would be without a home. If he had to pay for the board of himself and hired help how much would it cost him a year? Taking purely a financial view of the matter, what an important part the home plays in the accumulation of wealth.

Instead of buying more land and investing everything in acquiring property that will all be left behind when the summons comes to cross the river, why not contribute to the happiness and comfort of loved ones whom an all-wise Providence has committed to your care and keeping?

HOME-MAKERS

The woman who prides herself in being a good home-maker has an asset that is worth a whole lot. Good house-keepers are filling a large place in domestic affairs. They contribute more than any other force to the happiness and contentment of the human race. To be a good house-keeper means that every thing is kept in a clean and orderly manner; that the table is neatly and attractively set; that decorations about the home are provided; that an occasional bouquet graces the side-board, and above all that meals are prepared in such a way as to appeal to the inner man. A good cook "is more precious than rubies."

Above all, girls should be taught that the kitchen affords a great opportunity to gain wisdom. It is the best place in the world to take lessons in practical chemistry. No college laboratory affords such opportunities for practical demonstrations. When girls once learn to delve in the mysteries of cooking and study the chemical affinity that obtains in the preparation of the different dishes, there will be no drudgery in the preparation of food supplies. Girls should also be taught how to make home attractive. There is a great chance to study originality in the placing of the different pieces of furniture in the home. If mothers will teach their daughters the common, everyday duties in home-making they will bless them for it in after years.

INSPIRATION IN GOOD ANIMALS

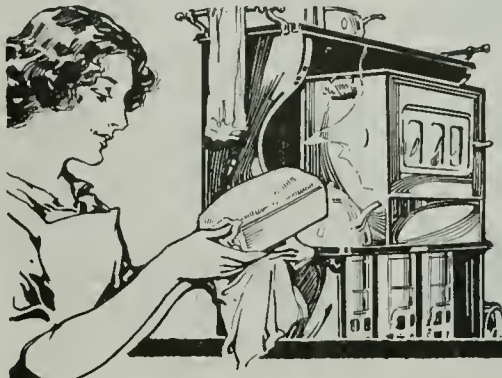
The breeding of good animals furnishes one of the greatest incentives to better home life on the farm. Many a woman has found in the pure-bred farm animal or fowl, an object for her best thought and interested attention. A considerable number of women have developed such skill in handling stock and poultry farms that they are now the proud possessors of highly profitable establishments. Even though it is not convenient to engage in the breeding of pure-breds on a large scale, it is good training for the farm boy if he can own and develop a few pure-bred pigs, sheep, or even cattle. The original investment in a few head of sheep or hogs is so small that any ambitious farm boy can get a start. The farm girl can find pleasant and profitable interest in a small flock of well bred chickens, pheasants, pigeons, or others of our feathered friends. Besides affording an ideal for better things, the pure-bred can be easily made to supply quite a bit of

spending money in the way of profits, and then there is always the opportunity for really big success if the girl or boy develops a skill in handling stock.

WELL KEPT HANDS

Two bottles should be kept in a handy place in the kitchen, one containing five parts of lemon juice to one of alcohol, the other one-fourth ounce of tragacanth added to a pint of rain water which has stood three

days, then one ounce each of alcohol, glycerin and witch hazel, also a little good perfume. After washing dishes, preparing vegetables or doing any of the rough kitchen work, apply a little of the lemon juice then the other lotion, and in a moment the hands are dry, soft and smooth. All stains disappear quickly and the nails are cleaned easily. This process repeated a few times a day will repay any house-keeper for the slight trouble. The expense of this preparation is comparatively nothing.



Bakes to Perfection

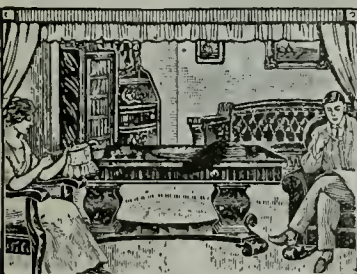
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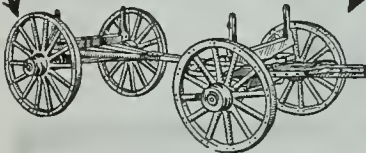
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of herding, made in eight National Forests during the season of 1913, show that the blanket system produces lambs approximately five pounds heavier and increases the carrying capacity of the ranges 10 to 25 per cent. It was found also that loss of sheep on heavily timbered ranges was less under the new method than the loss under the old system of close herding where the sheep are driven back to the same bedding ground for several nights in succession.

The blanket system takes its name from the fact that the herder does not establish a permanent camp to which the sheep are driven every night, but packs his blankets with him and beds down the sheep wherever they happen to be when night overtakes them. During the day he moves about outside the band and looks for tracks to make sure that all his sheep are within the circle covered by him. Strays are rounded up and herded to the main band. Fuller use of the range is made, since little forage is destroyed by trampling, and the sheep fare better because they are constantly moving through new feed instead of returning to a permanent camp over areas already fed off.

CONSISTENT GROWTH

Animal husbandry has made wonderful progress in the Pacific Coast States during the past few years, and in maintaining its position as the greatest Pacific Coast publication devoted to animal husbandry, THE LIVE STOCK AND DAIRY JOURNAL has kept in front of the great industry which it represents.

The growth of THE LIVE STOCK AND DAIRY JOURNAL has been along definite lines, planned months ahead, and anticipating the requirements of readers and advertisers served. There have been no sensational methods employed, either in the securing of subscriptions or advertising business, and the consistent and steady growth of both subscription list and amount of advertising carried is founded upon conservative business practice.

Possibly the best evidence of the increasing popularity of the JOURNAL is found in our circulation records, as the usefulness of any publication is largely measured by the number of people who subscribe for it, and who are interested in, and in a position to be benefited by, the reading matter contained in its issues.

For the information of readers who are interested in the progress of the JOURNAL we submit the following table, the figures of which are taken from our sworn statements of circulation:

	1912.		1913.		1914.	
Monthly.	Mailed to Advance Subscribers.	Total No. of Copies Printed and Circulated.	Mailed to Advance Subscribers.	Total No. of Copies Printed and Circulated.	Mailed to Advance Subscribers.	Total No. of Copies Printed and Circulated.
April.....	8938	11000	12089	13500	15244	16700
May.....	9758	11500	12136	13500	.....	.....
June.....	9874	12200	12290	14200	.....	.....
July.....	10400	12200	12307	14500	.....	.....
August.....	10126	12200	12367	14500	.....	.....
September.....	10716	14300	12352	16200	.....	.....
October.....	11432	13000	12657	15200	.....	.....
November.....	11876	13700	13021	15200	.....	.....
December.....	12157	13600	13371	15200	.....	.....
January.....	.....	.....	12131	13500	14252	16700
February.....	.....	.....	11924	13500	14467	16700
March.....	.....	.....	12017	14500	15136	16700

It will be noted that during the last eight months of 1912 the JOURNAL made a gain of 3219 paid subscribers. During the twelve months of 1913 there was a gain of 1190 paid subscribers, and the month of April shows a gain of 3155 subscribers over the corresponding month last year.

Covering the two year period, the JOURNAL has made an increase of 6306 paid subscribers, or an average of 262 per month for twenty-four consecutive months.

The advertising columns of the JOURNAL have shown an increased business quite in proportion to subscription increase, and at all times a high standard of advertising has been maintained. There is not a single advertisement in the JOURNAL that is not in our opinion absolutely clean and legitimate.

The Journal does not accept Medical or Liquor Advertising, nor Advertising of any character which appears to be of an illegitimate nature

Since January 1st, 1914, we have refused orders and returned contracts on medical advertising alone that total almost 40 per cent of the total amount of advertising carried in the JOURNAL during the year 1913.

Some of our friends think that, in refusing such business, we are paying too high a price for the maintenance of a clean publication, but we think differently. We have never especially urged our readers to mention the JOURNAL in writing to advertisers, except that there is always that little line at the bottom of the advertising pages, but we feel that without any urging a great many of our readers do take the pains to show their appreciation of the JOURNAL by mentioning it when replying to advertisements. Several of our largest advertisers have remarked that the JOURNAL has an unusually loyal family of subscribers because so many of them never fail to mention its name when writing for prices or catalogues.

We have a very sincere appreciation of the co-operation which we have had from our readers, and it has been largely due to this co-operation that the JOURNAL has been enabled to forge ahead as rapidly and consistently as it has during the past three years.

At all times we wish readers to take advantage of any feature of service offered by the JOURNAL, for a single question and its published reply will benefit, not only the questioner, but a great many other readers.

Live Stock and Dairy Journal
Sacramento, California

POULTRY

THE LURE OF DISTANCE

Some months ago the writer of these lines remarked to a friend that it appeared foolish for breeders to believe and claim they had to send to the Eastern coast for stock to head the pens with, or to mate with the roosters when equally as good or better stock can be bought on this coast, often from the near neighbors, and with no big expense of expressment.

In a recent issue of a local contemporary the same thoughts were published from another writer, and in the article two concrete instances were given of two California poultry breeders who sent birds to the shows on the Eastern coast and came away with flying honors, in one case, where there was hot competition admitted by the judges, the California birds were awarded nine prizes out of fifteen birds entered.

In conversation with a breeder the other day he said he had just received two roosters and wanted the writer to look at them.

The express charges amounted to over \$15, and the birds cost something over \$50. The crate they were shipped in weighed considerably over a hundred pounds. The birds were big frames for the breed, but had serious defects in the comb and tail, and one had a disease of the comb.

Here we have two authentic instances, one that California birds can beat many Eastern ones in their shows on their own ground, the other where a breeder actually bought (unseen) from the East birds that were not worth the price by considerable. He could have easily obtained much better ones right at home. He could have seen them before buying. There would be no \$15 express charges. He would have been treated squarely, and many other points would have been to his benefit to see what his neighbors in this State had to sell.

Poultry Editor Live Stock and Dairy Journal—Will you please tell me in

your next issue what you consider a good dry mash for young chicks less than two months. Oblige yours truly.
—J. O., San Jose, Cal.

Fifty per cent heavy bran, 20 shorts, 20 feedmeal or cornmeal, 5 good beef scraps or fish meal, 3 bone meal, 2 fine charcoal. All grain in litter. Plenty of greens, grit and water, with cleanliness.

Poultry Editor Live Stock and Dairy Journal—Some of my hens are quite fat, and I do not seem to get the strong fertility that I would like. What is the remedy, if any. Thanking you for a reply in next issue. Yours.—E. H., Santa Ana, Cal.

The infertility comes mainly from the surplus of fat. Cut out all feed that will help fat in production, feed more greens and give plenty of litter where the grains will be scattered.

Poultry Editor Live Stock and Dairy Journal—Is a cockerel of 10 months too young to place in a pen of older

Leghorns & White Rocks



I have some choice stock for sale. White, Brown and Buff Leghorn year old hens and cocks, good breeders, at reasonable prices. I can furnish birds for exhibition also.

White Rocks, Fischeil Strain, good birds for sale reasonable.

JAMES D. YATES,
Expert Poultry Judge, Modesto, Cal.

FOR SALE

FIVE FAWN AND WHITE INDIAN RUNNER DRAKES.
Direct Importation From Harsbarger's Blue Ribbon Strain.

CHARLES V. PARKER

Villa Maria,
P. O. BOX 124, HANFORD, CAL.

Incubator Chicks

White, Buff and Brown Leghorn, Black Minorca, White Rock. All high-class stock.

Send for Booklet of prices.

H. S. KIRK

P. O. BOX 697, SACRAMENTO, CAL.

PEERLESS POULTRY YARDS

BOX 366, ORLAND, CALIFORNIA.

BREEDER OF HIGH CLASS BUFF ORPINGTONS, WHITE PLYMOUTH ROCKS, AND SILVER WYANDOTTES.

Fine Breeding Stock Ready for Sale. Booking Orders for Hatching Eggs.

E. B. NEILSON, Oroville, California

BREEDER OF

SILVER LACED WYANDOTTES

My stock of Great Winter Layers is the best to be had on the coast. Eggs \$2.00 per setting of 16 eggs, or three settings for \$5.00. No stock for sale.

"THE CALL of the HEN"

OR THE HOGAN SYSTEM OF PICKING OUT THE LAYERS, the New Book lately issued by Walter Hogan and endorsed by the best known breeders and experts on poultry. Subscription one year to The Live Stock and Dairy Journal and this Book for \$2.50.

DR. WHEELER'S SPECIFIC FOR ROUP

FOR ROUP, CATARRH, ETC. To mix in the drinking water; an excellent remedy. Prices, \$1.05 and \$2.10 by mail.

"PREVENTION"

A remedy for WHITE DIARRHOEA and CHOLERA. Prices, 50 cents and \$1 by mail. Send all orders to

J. E. HOLT, R. 4, Box 270, (LATE OF BURBANK) LOS ANGELES, CAL.

hens? He is lively, strong and vigorous, and how many hens would you allow him—Black Minorcas. Yours sincerely.—J. D. S., San Diego, Cal.

Judging from your description he will be all right, and his age will be all right in such a case. Ten hens at present.

Poultry Editor Live Stock and Dairy Journal—Kindly say in next issue what is the age to separate the sexes of young chickens, Barred Rocks. Yours truly.—A. D. S., Holtville, Cal.

As early as you can distinguish the sexes.

Poultry Editor Live Stock and Dairy Journal—I have a hen that mopes, around, does not care to eat, and her comb is turning dark. Will you please tell me the trouble and remedy. I am, Yours.—F. I. L., San Louis Obispo, Cal.

The trouble is liver complaint, generally caused by too heavy feeding or too fattening feeds. Take her from the others so you can medicate her. Give a tablespoonful of Epsom Salts in a quart of water and allow her that only for drinking every other day for a week. Feed her very lightly on non-fattening feeds; supply lots of greens. When grains are given see she works for them in deep litter.

Poultry Editor Live Stock and Dairy Journal—Some rats burrow under my small chick pens and sometimes in day time kill a few. What can I do to stop them. I have tried traps, but they will not go in them. Enclosed stamped envelope for immediate reply. Thanking you, I am.—G. O. T., Pasadena, Cal.

Get some galvanized wire a little finer than one inch, about two feet wide. Set it down under the soil a foot all around the pen, allowing the other foot to be above ground and close to the old wire. Place poison in their runs where the chicks will not get it, and keep two good cats.

The Live Stock and Dairy Journal—Please tell me what is good to rid a chicken house of mites. The whole place seems infested with them, although we have a new place.

M. E. F., Mono County, Cal.

Soak all woodwork thoroughly with crude oil, and clean up the premises thoroughly. Mites cannot live in the fumes of crude oil.

MITE AND LICE EXTERMINATION

(Written by James D. Yates.)

Now that the warm days of summer are here, the work of getting rid of vermin will need to be done more thoroughly, and whether you keep a few hens or thousands, you will not get as many eggs, and profits will be lessened if something is not done to destroy the pests.

Generally speaking, mites are easier to get rid of than lice, because the mites hide in the daytime in the cracks and crevices of the roosts or as near the hens as possible, so they do not have to journey far to get on the hens at night. One of the great reasons why some hens do not lay well in summer is because lice and mites suck their nourishing blood.

The quickest and best way to destroy mites is with a spray pump. If you have an extensive plant you need a spray pump attached to a pail or something of the kind. If you have only 150 hens, a small hand sprayer will do, and can be bought for 40 or 50 cents with a quart tank attached. It is not so much the size sprayer you use as the liquid you use in it.

An effective and cheap lice and mite killer to use in spray pumps is ordinary kerosene, with all the crude naphthalene flakes it will take up. Stir the flakes well into the oil and let the mixture stand a few minutes, then strain into the sprayer and you are loaded for the game. After you have sprayed only a very few strokes, where

there are cracks you will see the mites begin to come out. The naphthalene is very obnoxious to mites and quickly drives them out of hiding, and while you will get the most of them the first time, it is best to repeat the spraying in three days.

The cost of this mixture is small, naphthalene being bought at about 10 cents per pound and the cost of the oil brings the cost of the mixture up to about 25 cents per gallon.

To get lice off the hens, dip them in a good dip, dust them, or better still give them a large dust box filled with road dust, and sprinkle ashes and sulphur in the dust. An excellent formula for a dry powder to dust hens is made up of 1 part Venetian red, 2 parts air slaked lime, 2 parts sulphur, 1 part naphthalene flakes, all powdered fine and thoroughly mixed. Put mixture in can with perforated top and pepper the birds.

STATEMENT OF OWNERSHIP, MANAGEMENT, CIRCULATION, ETC.,
Of The Live Stock and Dairy Journal, Sacramento, Cal., Required by the Act of August 24, 1912.

Managing Editor—R. D. McFarland, Folsom, Cal.

Business Manager—Charles Hughes, Sacramento, Cal.

Publisher—Agricultural Publishing Company, Sacramento, Cal.

Owners (Holding 1% or more of capital stock)—R. D. McFarland, Folsom, Cal.; Charles Hughes, Sacramento, Cal.

Known bondholders, mortgagees and other security holders holding 1% or more of total amount of bonds, mortgages or other securities—California National Bank, Sacramento, Cal.

(Signed): CHARLES HUGHES, Business Manager.

Sworn to and subscribed before me this 30th day of March, 1914.

GEO. W. STARLING, Notary Public in and for the County of Sacramento, State of California.

My commission expires June 1, 1917.

PENNSYLVANIA GUERNSEY BREAKS WORLD'S RECORD

The Guernsey cow May Rilma, whose performance was noted in a recent issue of the Journal, has come up to what was expected of her and has broken the world's record of all breeds for amount of butter fat produced in one year. She finished her year with a total credit of 19,639.5 pounds of milk, 1059.55 pounds butter fat. The previous record was held by the Holstein-Friesian Banostine Belle De Kol, with a year's production of 1058.34 pounds butter fat. The figures given for May Rilma will probably be increased when the official record is finally checked, as she is performing the remarkable feat of making more fat after the end of her year than she did at the beginning. It seems likely then that she will be continued on test for thirteen months and that the last twelve will be the basis of her final record. Her record is a most commendable one from the standpoint of almost ideal dairy production. She has never exceeded 65 pounds of milk in one day, and her remarkable record is due to the persistency with which she maintained her production.

CALL FOR MEETING OF DRAFT HORSE OWNERS

The following letter, which is a copy of one sent out to draft horse owners and breeders throughout California, is self-explanatory. If such an organization can be effected, there is a great good to be accomplished through the united effort of those who are engaged in draft horse production, and the Journal hopes to see a good number of horsemen at Davis on May 16th. The letter:

"At the suggestion of leading breeders of draft horses of the State and

Classified Advertisements

Rates: Two cents per word each issue. Minimum, 50 cents.

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SECOND-HAND PIPE.

Very best quality of selected Second-Hand Water Pipe and Standard Screw Casing. For quality and low price you make no mistake when buying water pipe of the Weissbaum kind. Largest pipe works in the West.

WEISSBAUM PIPE WORKS,
162 ELEVENTH ST., SAN FRANCISCO.

POULTRY.

EGGS FOR HATCHING—PUREBRED Stock. Buff Orpington, and Buff Cochins Bantam, \$2.00 per 15; Toulouse Goose, 25c each; Pekin Duck, \$1.50 per 12; Pearl Guinea, and China Pheasant, \$1.50 per 15. L. R. MCCOY, R1, Box 205, Stockton, Cal.

FOR SALE—Pure Silver Laced Wyandottes, Buff Leghorns, Barred Rocks. Eggs. Mary Carlson, Camino, El Dorado Co., California.

BUFF MINORCA hatching eggs, \$2.00 and \$3.00 per 15; \$10.00 and \$15.00 per 100. Barred and White Rocks, Andalusians, R. I. Reds, eggs \$1.50 per 15, \$6.00 per 100. Runner Duck eggs \$1.25 per 15, \$4.50 per 100. Buff Minorca cocks and cockerels for sale. Also have left two trios. Get orders in soon. Visitors welcome. Cedarhurst Ranches, R. 2, Sacramento, Cal.

BUFF MINORCA—Eggs for hatching, \$2 for 15. A few hens and cockerels for sale. Derryfield Kennels, I. O. O. F. Building, Sacramento, Calif.

PRIZE HOUDANS—Catalogue now ready. MRS. EMMA F. REID, R. F. D. 4, Box 54, San Jose, Cal. Life member American Poultry Association.

IMPORTED AND UTILITY HATCHING EGGS—White, Black, and Buff Orpingtons, White Leghorns, S. C. and R. C. Reds, Anconas, Silver Campines, and Faverolles. Write for mating list. CHAS. F. HOLMAN, Stockton, Cal.

BABY CHIX AND EGGS—From grand laying strain of S. C. Rhode Island Reds. INWOOD POULTRY FARM, Box 192, Folsom, Cal.

S. C. RHODE ISLAND REDS exclusively. Stock and eggs for sale in season. H. E. HILL, R. 6, Hanford, Cal.

BABY CHICKS—(White Leghorns.) Shipped on approval. Examine at your home before remitting. No weak ones charged for. SCHELLVILLE HATCHERY, R. 1, Sonoma, Cal.

BARRED PLYMOUTH ROCKS—Winners at Fresno, December 4-7, 1913, first and third pens; first, second, third and fourth pullets; third and fifth cockerels. Stock for sale, also eggs from above winning females. W. L. KENNEDY, Box 20B, Fowler, Cal.

INCUBATOR CHICKS—White, Buff and Brown Leghorn, Black Minorca, White Rock. All high-class stock. Send for booklet. H. S. KIRK, P. O. Box 697, Sacramento, Cal.

R. I. REDS exclusively. Eggs \$6 per 100; Chicks \$15 per 100. Cash with order or stamp for reply. L. W. NELSEN, R2, Box 1, Petaluma, Cal.

TURKEYS.

MAMMOTH BRONZE TURKEY EGGS from the largest and best stock in the West. Special prices. Geo. A. Smith, Corcoran, Cal.

NEW ZEALAND HARES. WONDERFUL BARGAIN in thoroughbred New Zealand does and bucks, 6 to 10 months old. Great money makers. They made California famous for her rabbit ranches. These hares \$3 each. For 10 or more, \$2.90. Big, mature Belgians at \$2.75. Offer only lasts this month. Send money order today. Don't miss this chance to start a quick-money side line. NEW ZEALAND HARE FARM, Kegley & Son, Box 262, Sawtelle, Calif.

certain of the agricultural press, an invitation is hereby extended to you to meet with other breeders at the University Farm, Davis, on May 16, 1914, for the purpose of taking part in the organization of an association, the object of which shall be to promote the interests of draft horse breeding in California.

"It is suggested that the breeders meet at the Animal Industry Building, ready to be called to order promptly

LIVE STOCK.

PUREBRED REGISTERED PERCHERONS AND BELGIANS—A few choice young stallions from 3 to 5 years old. Also 2 and 3-year-old Percheron fillies for sale.

PRIZE WINNING STOCK of Poland China and Mulefoot Swine. Some fine boars of championship ancestry for sale. Mulefoot pigs, both sexes. RIVERSIDE STOCK FARM, Grafton, Cal.

REGISTERED GUERNSEY BULLS—Six bull calves from 1 to 5 months old. All out of first-class cows, and by the following sires: Hopeep's Mar of Iowa (22134), Imp. Hayes Oliver (25149), Beth's Glenwood of Pinehurst (17424), Rex Mar (19669), Imp. Gay Lad 2d du Brage (12649), and Maxwell of Wattle Maple (17930). Send for pedigrees and price. EDMONDOR FARM, Santee, Cal.

GUERNSEY BULL—Glenwood's Main Stay 36th (22860). Sire, Glenwood's Main Stay (6067); dam, May Blossom of Palsdale (15027), 2 years old and a splendid individual, guaranteed in every respect. His sire has 13 A. R. daughters and 8 A. R. sons. His dam is an A. R. cow, with one A. R. daughter. Send for pedigree and price. EDMONDOR FARM, Santee, Cal.

REGISTERED BERKSHIRE BOARS FOR SALE—Excellent individuals of the best breeding. Good feet and plenty of bone. Ready for use. Farmers' prices. Mail orders guaranteed satisfactory. A. H. BRINTON, Woodland, Cal.

DAIRY AND STOCK FARMS.

FOR LEASE—285 acres, well fenced, good feed, at \$1.10 per acre for season. Address, Learned Spray Co., Breeders of Percherons, R. 4, Box 22, Stockton, Cal.

83 ACRES, out of which 65 are planted in alfalfa, irrigated; no improvements. 153 Acres, out of which 60 are planted in alfalfa, irrigated; no improvements.

56 Acres, all in alfalfa, irrigated. These lands are situated in the famous Oakley Homestead Tract, two miles from Wheatland, Yuba County. Soil is mostly rich bottom land. Prices range from \$150 to \$165 per acre.

A number of large stock and dairy ranches on hand in Yuba and Sutter Counties. Alfalfa land in 10, 20 and 40 acres and up.

In addition we are sole owners of Hallwood Irrigated Farms, with the best system in the country. Unsold land in this tract especially adapted for rice, which has proven to be a splendid success.

No matter what you want we can please you. State your desires and we will take pleasure in giving you thorough description.

Remember, no trouble for us to answer questions. Write today. GOLDEN LAND & INVESTMENT CO., Marysville, California.

IF YOU WANT A DAIRY RANCH in the famous Coquille Valley, write F. B. Phillips, Coquille, Coos Co., Oregon.

FARMS WANTED.

WANTED improved farms and wild lands. Best for quick results. Full particulars and magazine free. Don't pay big commissions. Western Sales Agency, Minneapolis, Minn.

WANTED—To hear of good farm or unimproved land for sale. Send description and price. Northwestern Business Agency, Minneapolis, Minn.

MISCELLANEOUS.

USE EGGSEAL—Preserves eggs without cold storage. Conforms with Department of Agriculture. Correspondence solicited. Agents wanted. EGGSEAL DEVICE CO., 311 Marvin Bldg., San Francisco.

at 11 o'clock a. m. Attention is called to the fact that the date set is that of the annual picnic of the Farm School.

"It is hoped that all interested may be present or represented at this meeting. If it should not be possible for you to attend, a note expressing your interest in the proposed organization will be appreciated.

"Yours very truly,
"GORDON H. TRUE."

MILWAUKEE Mowers & Rakes

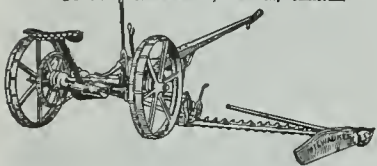
Made particularly for use where heavy cutting is required. The chain drive is the principal reason for the exceptional working qualities of the Milwaukee. No lost motion. The moment the wheels move the knife starts. Wheels are well lugged and there is sufficient weight to furnish abundant tractive power to cut a smooth swath in heavy clover, alfalfa, wild grasses or heavy weeds.

Send for Catalogue

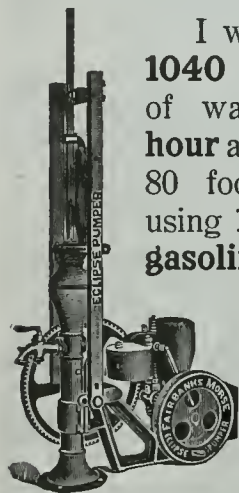
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Correspondence Solicited

TO LAND OWNERS

An English sheep farmer from Australia, of large experience in sheep ranching, expert in cultivating pastures for fattening stock, early spring lambs, and growing fine wool, is now open for an engagement to manage or establish a first class ranch.

J. H. REEVE,

1242 42d Ave. San Francisco, Cal.

NOTES

Rivergarden Stock Farm, Grafton, Cal., has one of the largest herds of Mulefoot hogs in California. This breed has proved very satisfactory on this ranch and are preferred above other breeds which have been bred under the same conditions.

Howard Cattle Company of San Francisco and Newman, report the sale of good numbers of Berkshire hogs and Shorthorn bulls. Twenty registered Berkshire sows and fifteen registered Berkshire boars were recently sold to various stockmen, mostly in Stanislaus County. Of the recent sales of Shorthorn bulls, 10 head went to Nevada, 3 head to Honolulu, 1 to Santa Clara County, 4 to Kern County, 2 to San Diego County, and 1 to Senator John B. Curtin of Tuolumne County. The Howard people have been able to take care of their regular customers only through the most painstaking effort in securing eastern bulls, as the demand is so strong all over the country that bulls are harder to get this year than ever before. This condition was strongly emphasized by the Journal before the breeding season opened this year and the shortage of bulls was even more marked than we had anticipated. The outlook of the beef situation is such that we doubt very much if pure-bred bulls of the beef breeds can be bought next year at this year's prices.

N. H. Locke Co., Lockeford, Cal., report the sales of two highly bred registered Jersey bulls recently. Bonanza Fox, sired by Bonanza Lad, a brother to Empress Lass, the noted show cow in the Locke herd, went to C. C. Skewes, Nevada County. Balet's Repeater of L., sired by King's Valet, and out of San Joaquin's Lottie, a full sister of Lady of Lockeford that made 67.93 pounds fat in 28 days under official test in February, and yielded over 1200 pounds of milk in the same period, was purchased by E. W. Sargent, Kings County.

There are now quite a large number of small herds of registered O. I. C. hogs in California, and the breed is meeting with great favor among breeders who have owned them for some time. C. B. Cunningham, Mills, California, has sent out over forty foundation herds from his herd, besides a large number of boars to be used on grade herds. The big white hog has a very decided place on California farms, and its merit is becoming better recognized than ever before.

Willowmoor Farms at Redmond, Washington, is known throughout the whole of America as the home of one of the world's greatest herds of registered Ayrshire cattle. Three world's records have been made by cows in this herd, and top honors have been won by the herd at most of the leading dairy cattle shows in this country. The senior herd bull, Beuchan Peter Pan, was also grand champion bull of the breed in England. The herd now contains over 300 head of registered animals, and a large number of small foundation herds are regularly sold. In a recent letter to the Journal, J. W.

Clise, the owner, states that Willowmoor Farms are now prepared to furnish bred heifers in any number up to carloads. This affords an opportunity to secure Ayrshire foundation stock from one of the greatest herds of the breed, and coast breeders are fortunate in being able to buy this class of stock so close to home.

W. J. Greer, Edenvale, Cal., reports to the Journal the sale of the big registered jack, Mogul Giant, to Ben Crouch of Butte County. This was the best jack offered for sale by Mr. Greer this year, but he has a fine lot coming on for next year's business.

There is no country on the American continent where improved live stock blood is more urgently needed than in Mexico. Should the present trouble in that country result in a really stable form of government, there will be immediately opened up a vast new demand upon the already overburdened breeding establishments in the United States.

The breeding of purebred animals is an art which requires intelligent and sustained effort. The man who expects to buy up a large herd of any kind of animals and retire on the profits within a few years would better invest his money in some other enterprise. The large successes in breeding, both financial and otherwise, come to the man who has a deep understanding of the principles of animal life and a definite desire to so work from those principles that he is enabled to give to the world a still higher type.

Woodin & Little, the great San Francisco pump house, have just completed the publication of a large new catalogue. They have a new advertisement in this issue, and intending buyers of pumps should write for a copy of this catalogue and see the selection offered.

In a change of advertisement in this issue, J. L. Gish of Laws, Cal., offers a choice selection of registered Berkshire hogs of various ages from his Model herd. While this herd is probably new to many of our readers, it is actually a long established herd, and has been built up on some of the most approved blood of the Berkshire breed.

There are a great number of silos being constructed in California at the present time. It is now an assured fact that the silo can be successfully used in practically every section of the State. While the greatest activity is among dairymen, there are not a few beef cattle feeders who have already built or are building. The recent tests conducted by Experiment Stations in the Middle West to determine the feeding value of ensilage to beef cattle and sheep seem to have established the fact that the greatest profits can be made when ensilage is included in the ration. Further experiments will no doubt bring out even greater possibilities, and ensilage will afford a very great relief to many California feeders.

SUBSCRIPTION ORDER

The Live Stock and Dairy Journal,
Sacramento, California.

Enclosed find one dollar, for which send me the Journal for two years.

Name

Address

Mention The Live Stock and Dairy Journal When Writing to Advertisers.

THEY CAN'T ESCAPE!!



Kill the Gophers and Squirrels

KILMOL
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KILLS 'EM ALL
Requires **ONE** Cent
less than **Minute**
For Each Burrow

KILMOL is thoroughly practical. Most of the large land owners in California are using KILMOL exclusively on their properties. The work is paying big dividends in increased crops. The Government has approved KILMOL, and the Government Inspectors are using it exclusively all over the state. KILMOL can be used in either dry or wet weather, and the average cost for labor and material is only 18 to 28 cents per acre.

Government tests have shown KILMOL to be 100 per cent efficient. KILMOL kills 'em all.

I shall be glad to send you further information and prove these statements. Write me today.

Or, if you wish to try this method immediately remit \$17.50 and I will send you the complete outfit: the DESTRUCTOR, 3½ feet of hose, carrying strap and 5 gallons of KILMOL. With an average infestation this will treat over 60 acres, and the cost thereafter for KILMOL will be but \$6 for each additional 60 acres. If you are not satisfied after giving it a fair trial I will gladly refund your money.

5 gallons KILMOL today \$100 in crops tomorrow. Barley poisoned according to Government formula, \$7.50 for 100-lb. drum. Strivehne, 65 cents an ounce.

Send personal check or money order TODAY.

Herbert F. Dugan
Dept. H, 1170 Sutter St.,
San Francisco, Cal.



It is the Duty

—of—

Every Breeder

To become a member of the Association closest to his interests, and very substantial advances in live stock conditions in California may be secured by sustained united effort among breeders and growers.

In order to supply the names and addresses of the various organizations to our readers we are publishing below the names of the various Associations with name and address of the Secretary, to whom application for membership and fee for same should be mailed.

CALIFORNIA LIVE STOCK BREEDERS' ASSOCIATION. D. O. Lively, Exposition Building, San Francisco.

CALIFORNIA JERSEY ASSOCIATION. J. E. Thorp, Secretary, R 6, Stockton, Cal.

CALIFORNIA HOLSTEIN-FRIESIAN ASSOCIATION. Jas. W. McAlister, Jr., Secretary, Chino, Cal.

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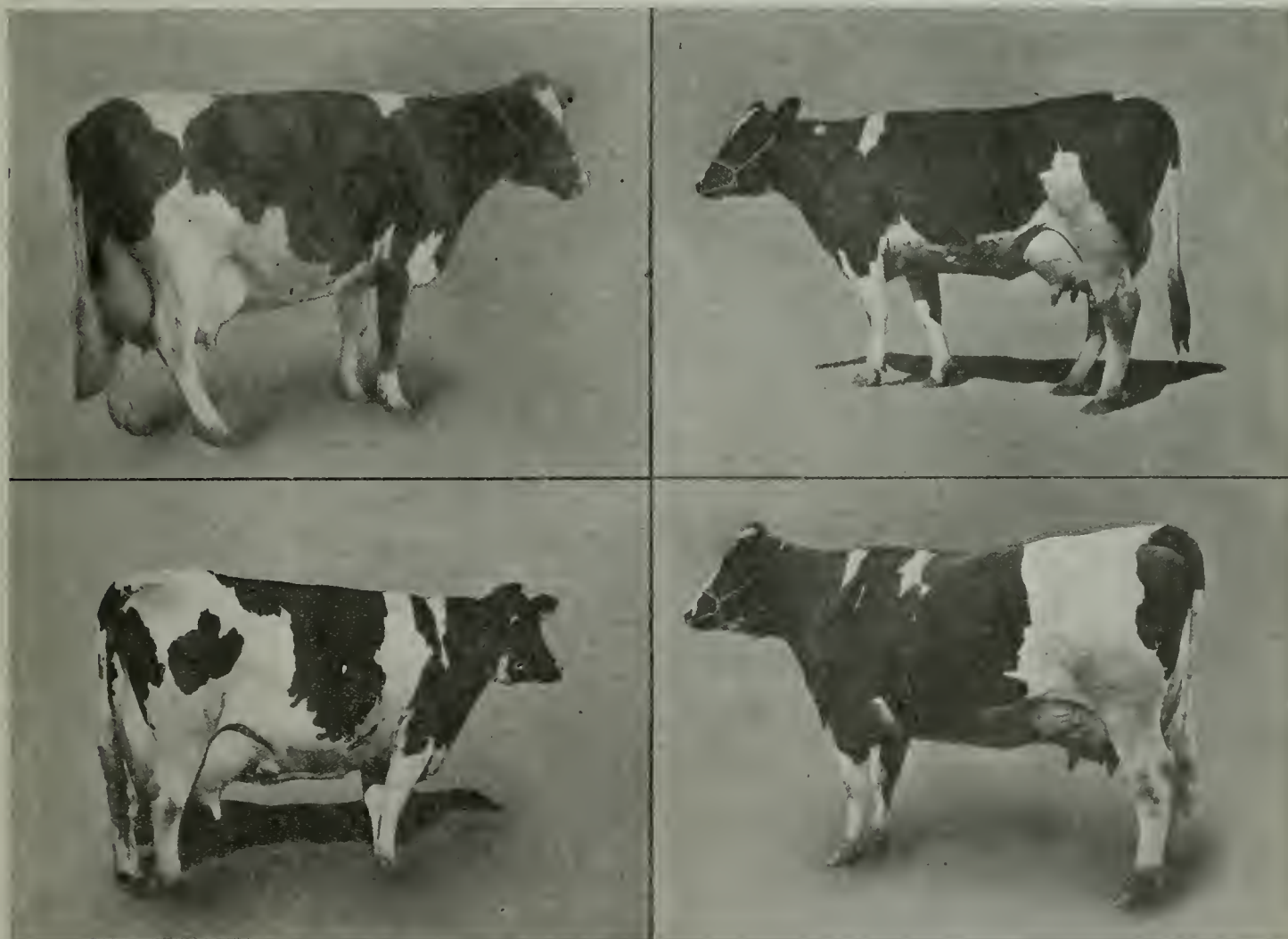
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THE LIVE STOCK ***and DAIRY JOURNAL***

FOR BREEDER, STOCKMAN, DAIRYMAN, POULTRYMAN and FARMER

THIRTEENTH YEAR

JUNE, 1914



HEAVY PRODUCING YOUNG COWS IN REGISTERED HOLSTEIN-FRIESIAN HERD OWNED BY A. W. MORRIS & SONS CORPORATION, WOODLAND, CAL.

(Top)—Sadie De Kol Acme—Made 885.91 Pounds Butter In One Year Under Semi-Official Test as a 4-Year-Old. Made 25.22 Pounds Butter in Seven Days This Year Under Official Test.

(Bottom)—Wilhelmina Gerben De Kol—A Consistent Producer. This Year Made 30.375 Pounds Butter In Seven Days Under Official Test.

(Top)—Diotime Clyde Korndyke—Made Over 670 Pounds Butter Last Year as a Junior 2-Year-Old Under Semi-Official Test. Made 24.72 Pounds Butter in Seven Days This Year Under Official Test.

(Bottom)—Luit Burke—A Junior 4-Year-Old With Second Calf. This Year Made 32.76 Pounds Butter In Seven Days, 120.50 Pounds in Thirty Days, Under Official Test.

AGRICULTURAL PUBLISHING COMPANY, SACRAMENTO, CAL.

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WE ARE PROGRESSING.

The outsider can hardly realize the extent of the forces which are working toward better feeding methods on the part of our Pacific Coast live stock owners. Our experiment stations are now manned by great authorities on the subjects of feeding methods and values, the farm press quite generally has taken up the matter effectively, and there are considerable numbers of progressive farmers who have contributed the most valuable data based upon their own experiences. In the matter of the feeding of dairy cows, the day of alfalfa—a sufficient—ration has long since passed by. The next step was the silo idea which spread rapidly, and afforded vastly increased yields and economies. We are now at the beginning of a third step in our feeding progress. We have found that a ration of alfalfa and ensilage is much better than alfalfa alone. A few of our most thoughtful feeders have already convinced themselves that still greater profits may be extracted from the dairy cow by adding suitable concentrates to her ration of alfalfa and ensilage. We have on this coast barley, linseed oil meal, coconut meal, molasses, and several grain feeds, which may be bought at prices which admit of a good margin of profit, as indicated by increased milk and butter production. We are still a little uncertain as to the best methods and proportions in which to feed these concentrates, but we have capable experiment station men working out the problems, and many good dairymen conducting tests of their own. The results of this work will become gradually apparent in a higher average production throughout the whole coast.

KEEP IT IN CALIFORNIA.

We hear an occasional outburst on the subject of California producing such high class registered farm animals that we shall soon be sending breeding stock east. We ourselves have been guilty of such statements, rather encouraging the idea. We have at such times had in mind the prosperity of our breeders of registered animals rather than the good of the whole state, and the more we contemplate the live stock situation in California, the more sorry would we be to see any really good breeding animals leave the state. There is a crying need right here in the state for

the services of every really great sire that will be bred in California for years to come. If it is true that natural conditions in California are conducive to the highest development of the registered farm animal, then there is no place on earth where good blood has a greater potential value. The chief reason why some of our best breeding blood is going to leave the state from time to time is because the average buyer in California does not yet realize fully the real worth of some of the great animals that have even now been bred and developed in the state. It is a fact that at the present time the most appreciative buyers and breeders on the whole Pacific Coast are in the Northwest, particularly in Oregon and Washington. Both of these states have already taken some of the best breeding blood out of California, and there is every prospect that they will take still more. We are glad to note their appreciation and progressiveness in the selection of such blood, but when we stop to think how badly such stock is needed in California, we are not entirely pleased to see it leave the state.

A GOOD REASON.

There are many good reasons for the testing of dairy cows for milk and butter fat production, any one of which can be made the subject of lengthy comment. One of the most far reaching reasons, from the standpoint of the practical dairyman who is in the dairy business for the profit which his cows can be made to yield, was recently summed up to us by a subscriber who started test work not more than a year ago. This man thought at one time that the Journal rather overestimated the value of test work, and as the yield of his own herd was quite satisfactory, he could not see just where he would be benefited by the regular use of a scale and Babcock tester. More to satisfy his curiosity than anything else he started testing his cows, and while he has been amply repaid for the small cost of the outfit and the small additional labor required in the detection of a few boarders in the herd, his greatest benefits have come from another source. To quote his own words, "I never realized what an unusual effect the testing of my cows would have upon the men who feed and milk them. Since I have begun to test, and the production of each cow is posted where every one around the place can see it at a glance, every little falling off on the part of any cow is a matter for immediate attention as to feed, or whatever else the cause may be. The men take greater interest in the cows, and as a result the herd receives better attention and is subject to better feeding, and the increased profits from the herd under the new order, are highly satisfactory indeed." This from a man who already had a profitable herd. It is food for thought for the man whose herd is possibly not as profitable as it should be.

ALFALFA LOW—CATTLE HIGH

It has been some time since alfalfa hay was as low in price as it is in California at the present time. The conditions which preceded this season made such a result inevitable. Thousands of acres of land stocked with dairy cows up to 1912 and even early in 1913, are not carrying a single head of stock now, and they are still growing their regular four to six crops of alfalfa. The cows that formerly consumed the crop are now turning Oregon, Washington, Nevada, and Arizona alfalfa into milk and butter fat, for thousands of cows went into those states from California during the dry season of last year. For months past there has been an unprecedented demand for dairy cattle practically all over California, the demand being especially keen in the alfalfa districts. There are not nearly enough good cows to be had at the

present time, and the only relief we can see is through the shipment of large numbers from the eastern dairy centers. Every condition affecting the dairy business on the Pacific Coast seems to point toward substantial profits for years to come. Rather, that statement should be qualified to make it read, "Substantial profits for years to come, to the dairyman who operates with good cattle, properly fed and handled." Besides a rapidly increasing country population, we must expect to have to feed a vast increase in the population of the cities of the Pacific Coast from now on. There is going to be an ample market near home for all of our dairy products for quite some time to come at least, and the introduction into this market of Australian butter is not going to seriously affect the dairyman who produces a really high grade product. The dairyman who operates amid unsanitary conditions with poorly fed scrub cows that are only boarders anyhow, may find the going too rough for his craft, and a few wrecks may result. Certainly we are going to need some sane legislation that will recognize the difference between a food product produced under sanitary conditions and one that is produced under conditions that disregard utterly the public health. With such legislation properly carried out in regard to the production and sale of dairy products, the dairyman who is equipped to put out wholesome milk, cream and butter will be able to realize the financial returns to which he is entitled, and the careless dairyman will also get all that he is entitled to for the quality of stuff that he produces.

All of these things combined are responsible to a large extent for the present demand for better cows and better breeding bulls. We doubt very much if the outlook for profit in dairying on the Pacific Coast was ever better, regardless of the occasional calamity howlers who see ruination staring the dairy business in the face every time the price of butter fat declines temporarily a couple of cents. We see plenty of good, sound evidence to support our belief in this respect in the manner in which the best dairymen of our acquaintance are going ahead with the improvement of their herds. It is true that they are placing due weight upon the fact that butter fat is down in price. So is alfalfa hay and most of the other feeds. The problem is being met intelligently by many men who are breeding better cows, with greater capacity, that will turn cheaper feed into profit even at lower prices of butter fat. Thus there is a demand for the best bulls of the dairy breeds that cannot be met by the present capacity of our breeding farms. The demand for bulls out of tested dams has increased rapidly during the past year, due to a better public knowledge of the worth of official testing, and in California particularly the breeders of dairy cattle who have been doing official testing have long since been sold out of bulls of breeding age and are now selling calves rapidly. We believe that there will be a very great shortage of registered dairy bulls of breeding age in California this fall when the fall breeding begins. In previous years we have been able at this season to find some little surplus of bulls on the breeding farms, that would be available for fall service, but at the rate that most breeders are moving young bulls, we cannot help but believe that late buyers are likely to encounter a scarcity of bulls this year.

OUR LOSS

California agriculture suffered a distinct loss in the recent death of Robert Newton Foster, manager of Hopland Stock Farm, and son of A. W. Foster, owner of the farm. It was

very largely due to the energy and intelligent direction of this young man that Hopland Stock Farm became one of the successful large agricultural enterprises of the State. It is one of the strange ways of Fate that the instrument which deprived Mr. Foster of life should be one of the features of the farm which was almost entirely of his own creation, and about which he felt a great deal of pride. He had fitted up a very elaborate and useful system for furnishing electrical power and light to facilitate operations on the big ranch, and it was while replacing a burned out fuse that he received the charge of electricity which caused his death.

ADVERTISING THE WEST

A dozen years ago when we were still a citizen of the unenlightened East, the words California, Oregon, Washington, Nevada, or even West, immediately brought to our mind a picture of Indians, cowboys, gold mines, and orange groves. As we look back at it, we find that our impressions had been moulded to a large extent by the things we had read of the country west of the Rocky Mountains. All those things of which we had read were foreign to our experience and consequently not easily understandable. It happened that we lived on a dairy farm, and if we had ever read an account of a single dairy enterprise in the West we would have had something to work upon that we understood, something that would at once have enlisted our sympathies with the West. We believe that there are some hundreds of thousands of good citizens in the Eastern States who would be eager to come to the West to settle if they could once be approached with actual information about the industry in which they are most interested. From the hundreds of tons of literature constantly going back east, one would be led to believe that the orange, the apple, the lemon, or the grape embodies everything that is worth while in Pacific Coast agriculture. The versatile copy writers who write this real estate literature have not yet awakened to the fact that animal husbandry is the greatest revenue producer in the whole West, and that it is the basis of our present prosperity and the foundation upon which our future must rest. Therefore, instead of firing a broadside of orange grove literature at the dairymen of Wisconsin, or Minnesota, or Ohio, and beautifully lithographed vineyard scenes at the hog raiser of Missouri and the beef cattle raiser in Iowa or Illinois, why not tell those chaps something about the opportunities which the West offers them in their own business, something that they can grasp at once?

There are in the East a number of the highest class of publications devoted exclusively to some form of animal husbandry. A number of these are easily the greatest of their kind in the world, and they reach a large percentage of the worth-while men who are breeding farm animals. Yet no one in the West seems to have thought of them as mediums for acquainting the eastern reader with the real facts about live stock business on the Pacific Coast. There is one railroad that has been running some very attractive copy in one of the great dairy papers, and we have read it with a great deal of interest, for it is good copy, telling in a very conservative manner of the great dairy opportunities in California. We believe that this idea might profitably be taken up by many of our organizations that are putting out advertising of Pacific Coast agricultural lands, for certainly if every breeder and animal owner in the Eastern and Middle West States knew the real truth about the Pacific Coast, there would be a good many thousands of them here to stay, within one year.

THE SWINE HERD

EXECUTIVE COMMITTEE OF U. S. LIVE STOCK SANITARY COMMITTEE DRAFTS IMPORTANT RESOLUTIONS IN REGARD TO HOG CHOLERA SERUM PRODUCTION AND ADMINISTRATION.

The above committee in special session at Chicago on May 6 drafted the following resolution, addressed to the Governor of each state, recommending immediate action by state authorities for State Control of Hog Cholera Serum Laboratories operating within the various states without Federal license:

Whereas, Hog cholera gives promise of being extremely prevalent during the coming season, and

Whereas, Reliable Hog Cholera Serum as produced under the Dorset-McBride-Niles system is of great value in controlling and suppressing the disease;

Whereas, It has come to the knowledge of this Committee that many Hog Cholera Serum Plants are in operation in various States which Plants are not licensed by the U. S. Department of Agriculture nor under Federal or State supervision;

Whereas, We believe there is much being placed upon the market, which may be absolutely unreliable and a detriment to hogs upon which it is used;

Whereas, Attention has been further directed to the placing on the market of fictitious Serum, which in some cases is known not to have contained any animal serum;

Therefore, Be It Resolved That, All State authorities be advised to adopt regulations whereby all Hog Cholera Serum Plants may be inspected and their products supervised as herewith recommended and when so supervised their products recommended as consistently as may be deemed advisable by State Officials;

They shall maintain entirely separate equipment for the handling of Serum and Virus; and

All equipment, containers, machinery, instruments and other apparatus used in the preparation of Viruses and Serums, shall be thoroughly sterilized before use by live steam at a temperature of at least 120 degrees Centigrade for not less than half an hour or exposed to dry heat of at least 160 degrees Centigrade for at least one hour. If for any reason such sterilization cannot be applied, then a process known to be equally efficacious in destroying micro-organisms may be substituted.

They shall keep separate temperature and number records of all hogs entering into the manufacture of Serum and Virus and the testing of Serum;

All premises used for the production and testing of Serum or Virus shall be properly ventilated, lighted, and maintained in a sanitary condition, so located as to avoid the spread of the disease and with suitable arrangements for the disposal of refuse.

All products shall be stored in a cold chamber or refrigerator for preservation until such time as they are removed from the premises.

Virus used for simultaneous treatment must be collected only from hogs which are inoculated by the Establishment.

The temperature of supposedly Virus hogs should not be accepted as proof of Hog Cholera unless supported by postmortem examination.

The indiscriminate distribution and sale of virus should be prohibited and its use limited to graduate veterinarians, who have had special training in the proper and careful use of Virulent Blood, and duly authorized to use the same.

Each container should show the firm name of the manufacturer and true name of product and date of manufacture.

The simultaneous method should be used only in infected localities, except in cases of recorded breeding herds and then only under direction of State Officials.

The importation of hogs shall be prohibited unless accompanied by a certificate of health issued by a duly accredited veterinarian certifying that such hog is from an uninfected territory or in case of vaccinated hogs, that the same have received the Serum-Virus treatment at least 30 days prior to entry and the animal dipped immediately prior to shipment in a Compound Solution of Cresol, according to Government requirements.

The State authorities make arrangements with their respective State Veterinary Associations with a view to their adopting a schedule of fees covering the work of vaccination.

The operation of Serum Plants be under the direct supervision of a competent veterinarian or other professional man whose training and experience have fitted him for this work.

S. H. WARD, President.
JOHN J. FERGUSON, Secy-Treas.
C. M. HARING,
F. S. BROOKS,
V. A. MOORE,
C. H. STANGE,
E. R. FORBES,

Executive Committee.
Chicago, May 6th, 1914.

OAK GROVE BERKSHIRES TO BE IMMUNIZED

Before another issue of the Journal comes out, the Oak Grove Dairy Farm herd of registered Berkshires, Woodland, Cal., will have been given the double treatment to immunize them against hog cholera, and Mr. Armstrong states that thereafter all breeding stock sent out from the farm will be immunized. A great deal of money and care has been expended in building the Oak Grove herd up to its present high excellence, and the herd is altogether too valuable to take any chances of a cholera epidemic as the value of the hogs alone on Oak Grove Farm represents a small fortune. By subjecting all stock in the herd to the double treatment, an additional safeguard will have been provided for the many clients who buy their breeding stock regularly from the farm.

GOOD MULEFOOTS AVAILABLE

The Journal has quite frequent inquiries for the names of breeders of Mulefoot hogs from parties who wish to buy breeding stock. To subscribers who have inquired recently and to others who are interested in this breed, we call attention to the advertisement of J. H. Norton, Mesa, Arizona, in this issue. Mr. Norton has a herd of high excellence, a portion of which we saw on a visit to Arizona last season, and in a recent letter to the Journal he states that the Mulefoots are doing so well that he is better satisfied with them than with any other hogs he has handled.

HIGHLY PROFITABLE FARMS.

Farm management surveys are now being conducted in a good many localities in this country. In nearly all of them it has been found that from 2 to 5 per cent of the farmers are making very handsome incomes. A study of these highly profitable farms with a view to finding wherein they differ from ordinary farms brings out some very interesting relations.



The young registered calves and hogs at California Polytechnic School, San Luis Obispo, have their fresh green feed brought to them, and judging from this picture, they thrive on that plan.

The farms may be divided into three classes. One class consists of highly specialized farms, where the farming is not only of the most intensive character but is of large magnitude. Highly successful farms of this class are found only in those localities that possess distinct advantages in the matter of markets for perishable farm products or very distant advantages in the matter of soil and climate.

Another class consists of farms producing products of exceptional quality. They are mainly farms on which very

Oak Grove Berkshires

Bred For Quality

Capacity to convert feed quickly, and therefore economically, into pork of the best quality, is what has made the Berkshire the favorite hog for the Pacific Coast.

We have the blood of the greatest hogs of the breed in our herd, blood that produce profitable pigs, the kind that swell the bank account when market day comes.

Our brood sows are from the best families of the Berkshire breed, and hold their places in our breeding herd because of their size, excellent quality, and ability to farrow large litters of pigs of uniformly high type.

In ARTFUL MASTERPIECE, twice Grand Champion at California State Fair, IMPROVER B, the undefeated young boar that was first at American Royal, IOWANA MAJESTY and BRINTON'S LONGFELLOW, we have a group of sires second to none in the West.

We have been unable to meet all the demands for stock of breeding age made upon us during the past season, but at present we have a very fine lot of pigs coming on. We advise early selection as present indications point toward an increasing demand for good Berkshires this season.

We cordially invite prospective buyers to visit our herd, but if this is inconvenient an order by mail will receive careful and prompt attention.

OAK GROVE DAIRY FARM

Woodland, California

Reference: First National Bank of Woodland.

BOARS - SOWS - PIGS

I have on hand a limited number of young Berkshire boars, a few gilts, and some young pigs of both sexes. These are especially choice and of good breeding. Some are sired by RIVAL'S CRUSADER and LORD DUKE, and one or two bred here are by KENNETT LEE JR. Order early as the supply is limited.

G. A. MURPHY, Box 300, Perkins, Cal.



BREED'S MODEL 165859
500 Pounds at 13 Months.

SIZE and QUALITY

Count for the producer. Breed's Model's sons and daughters have both, and will reproduce both.

J. L. GISH, LAWS, CALIFORNIA
Owner MODEL HERD Registered Berkshires.



Boys Judging Live Stock at Farmers' Picnic, California Polytechnic School, San Luis Obispo, Cal. From the Picture It Appears That Some of the Boys Most Interested Were Between the Ages of Forty and Sixty Years.

OHIO IMPROVED CHESTER

PIGS!

PIGS!

PIGS!

AFTER MAY 10TH I shall be ready to deliver pigs of both sexes, immunized against Hog Cholera by the combination method, administered by a graduate veterinarian.

I have only a limited number of pigs for sale, so it would be advisable to place orders early.

My herd has supplied the foundation stock for over forty herds on the coast.

C. B. CUNNINGHAM

MILLS, SACRAMENTO COUNTY, CALIFORNIA.

Red Duroc Hogs Best Bred Stock Now In California

YOUNG STOCK AND SERVICE BOARS AND SOWS FOR SALE.

All Registered Purebreds, and from such sires as Wonder and Klondike. We are located in the Imperial Valley, and are here to supply California, Oregon and Arizona breeders. Write for prices and pedigrees to

MOORE BROS., El Centro, Imperial County, California
Box 202.

Tamworths The Celebrated Block and Bacon Hog. Especially adapted to California Climate. Boars, Sows and Young Stock for sale. Prices Right.

COTTLE & HOBSON COMPANY
AMSTERDAM, CAL.

REGISTERED POLAND CHINA SWINE

PRIZE WINNERS

Finest Stock in the State from \$30 up

I have for sale a few very fine Young Boars sired by Gold Coin, Master Banker and Wonderful Victor. There is no better blood in the world.

M. BASSETT, Breeder

HANFORD, CAL.

POLAND CHINA SWINE

I have for sale pigs of both sexes sired by my boar, Great Prospect (57949) out of sows sired by A. Wonder. For prices write or call.

BROWNING STOCK FARM, WOODLAND, CALIFORNIA.
W. H. BROWNING, Prop.

REGISTERED, PUREBRED POLAND-CHINA SWINE



Herd headed by Designer (160363), champion boar at Oregon State Fair, 1911. Seven champion crosses close up in pedigree. Best herd hog I have seen in West. I have sows as well bred as Designer, with six and seven champion crosses close up. All farrow large litters. I have not had hog cholera in my herd for thirty years. A lot of fall pigs to sell at \$20 to \$30. (Registry free to purchaser.)

S. F. WILLIAMS

CHICO

CALIFORNIA

high-priced live stock is produced. These farms are scattered more or less throughout the county and are not numerous anywhere. There is, in fact, not room for a large number of such farms in any section.

The third class consists of farms that are organized on the basis of standard field crops and the ordinary types of live-stock farming, but which are both very large and very well managed. It is this latter class of farms which appears most commonly in the Middle West, where there is not room for very many highly specialized farms. In New England fruit and truck farms, as well as farms devoted to the production of the highest class of breeding stock, stand out very prominently amongst the highly profitable farms.

While the highly specialized farm represents the possibility of great profit, it frequently also represents the possibility of heavy losses on account of the tremendous fluctuation in production, and consequently in prices, of the products of intensive farming. In the greater portion of the country the great mass of farmers must gain their livelihood from the ordinary field crops and the common types of live stock. The surveys clearly demonstrate the fact that in general farming the size of the farm is a very important factor. The farm should be large enough to give the working force available to the farmer a maximum of productive labor throughout the year.

POLY. FARMERS' PICNIC.

The eleventh annual Farmers' Picnic held at the California Polytechnic School at San Luis Obispo on the 15th of May was quite a success, both from the standpoint of attendance and program. Dean Thomas F. Hunt of the College of Agriculture, Berkeley, gave the principal address of the day, his topic being "Our Schools and the People." The program was held in the morning, and the big picnic lunch at noon was followed by a general inspection of the institution and its work.

One of the features of the afternoon was a "Little State Fair," promoted by the Agricultural Club of the school. This was patterned after larger fairs or shows, and proved both entertaining and instructive. It included a live stock parade, judging exhibition, shows in the horticultural and creamery divisions, etc. Ribbons were tied on several different classes of stock, and students explained the placing and reasons for same to the visitors. Some of the school's best live stock, including the State record Jersey cow, was used in this exhibition.

In the division of horticulture were shown specimens of greenhouse and garden work, and at the creamery were students engaged in the manufacture of butter and cheese, as well as exhibits of modern dairy apparatus and dairy products. Four different varieties of cheese were shown—all made by students at the school. Ice cream making was also featured, and most of the ice cream sold during the day was made by the students. Of course, no fair would be complete without a side show, and one of these, containing many "wonders" and "freaks," was patronized by most of the visitors, and created much amusement.

"Farmers' Picnic" at the Polytechnic is one of the events of the year locally, and furnishes an excellent opportunity for a general "get together."

PURE GOLD STOCK FARM

Breeders of BERKSHIRE HOGS
HOLSTEIN-FRIESIAN CATTLE

Offers for sale a few Choice Boars of breeding age, and a number of Boar Pigs containing the blood of Masterpiece and Robinhood. Prices, \$25 to \$75.

Also one choice Yearling Bull of good breeding.

MARKOFER & LATTI, Elk Grove, Cal.

Poland Chinas Iowa Wonder, son of A Wonder, heads herd. His daughters are bred to a stylish son of Banker's Model. These Pigs sell quickly, and it would be well to place orders for Spring Pigs now.
N. HAUCK, Alton, Humboldt Co., Calif.

BERKSHIRES REGISTERED BOARS OF ALL AGES.

Two especially fine Boars ready for immediate service, at a sacrifice price. Also White Leghorn Hatching Eggs for sale.
RICCOMI BROS., Mountain View, Cal.

DUROC SWINE Choice young stock, pairs and trios, no kin. Blood first prize winners of 1913. One yearling boar, prize taker. Prices right. **J. K. FRASER, Denair, Cal.**

DUROCS Out of first prize winners State Fair. Boars ready for service. Choice gilts. Pigs, either sex, \$15.
ED E. JOHNSON, TURLOCK, CAL.

Glenview Ranch

LARGE TYPE, REGISTERED

POLAND CHINAS

Have a fine, vigorous lot of Baby Pigs of both sexes. Quality and price right. Order early as supply is limited.

CHAS. R. HANNA,

R. 3, Riverside, Cal.

MULEFOOT HOGS Prize Winners at Arizona State Fair. Stock of Nearly All Ages For Sale.
J. H. NORTON, MESA, ARIZONA

R. F. D. 1

Knob Hill Stock Farm

REGISTERED POLAND CHINA SWINE

I offer young stock of both sexes out of prize winning stock. Call and see my herd or write for prices.

A. M. HENRY, FARMINGTON, CAL.

Hampshire Swine



My Hampshire Hogs have been selected with great care, and my herd is one of the oldest in America. Herd headed by El Salvador, winner of two silver cups in the strongest competition of the Middle West. Fifty young sows and boars for sale. This breed has won over all others in the dressed carcass contest for several years at the International Fat Stock Show.

Frank Reed Sanders

Salt River Valley, Mesa, Ariz.



SEND FOR SAMPLE COPY

Of the swine journal read by hog breeders of every state. Valuable articles on care and management of swine written by practical hog men. The only paper published exclusively for the Chester White, O. I. C., breed of swine, being its official paper. A profitable investment for any hog raiser; 50c per year or three years \$1.

Address, White Breeders' Companion Rochester, Indiana

SUCCULENCE WITHOUT A SILO

Pacific Coast dairymen are welcoming the introduction of dried beet pulp as a solution of the problem of providing an all the year succulent feed for their cows.

For many years they have known of wet beet pulp in a general way, and for many years all except a few have had no opportunity to use it, and have considered it a feed which could be obtained in only a few places. But the recent introduction of drying plants here is rapidly bringing beet pulp into general use, and the change will be one of the most important things that has happened in Pacific Coast dairying.

Ever since the beet sugar industry was first established dairymen living near the factories have been feeding wet pulp to cows with great profit. They realized its value as a milk producer and the cows themselves were ravenous for it. But the advent of the drying process has produced great changes. Instead of having a large herd of cattle gathered near the factory to eat what they could of pulp which fermented a few hours after it left the factory, and running the rest through the sewers to get rid of it, the sugar manufacturers are now furnishing the dried pulp to dairymen wherever they may happen to be located, by the ton or the carload, packed in sacks about like bran, one ton of the dried pulp representing twenty tons of the fresh pulp. As the pulp is sacked and ready for shipment within one hour from the time the beets come into the factory from the fields, there is, of course, no time for fermentation, and if stored in a dry place it will keep almost any length of time.

In Germany where beet sugar production has reached its finest development, and both the government and the individual endeavor to discover the most valuable use to which any natural product may be put, it was first seen that beet pulp ought to be dried to be of full value, and the government offered a large reward for the best method of handling it. A satisfactory process was worked out, which has since been used in Germany. Two or three years ago it was adopted by several of the California sugar factories; and soon beet pulp will be fed everywhere on the coast, as it already is in the Eastern States, where an output of between ninety and a hundred thousand tons this season failed to meet the demand and pulp had to be imported from Europe to supply the shortage. It will be fed wherever any concentrates are fed, and it will also be the dairymen's principal succulent feed, for when the dried pulp is soaked for a short time it will take up from six to eight times its weight in moisture, becoming like the fresh beets when sliced.

No dairyman nowadays needs to be told that his cows must have succulence if they are to do their best in milk production. If fresh pasture is the ideal food for dairy cattle and they give more milk and better milk during that part of the year when they are getting their fill of green pasture, then a winter or dry season feed that comes as near as possible to give the same returns is certainly necessary.

Dried beet pulp is particularly appreciated by farmers and owners of small herds, who could not afford to build a silo to supply green feed for a few cows. It also has a special and unique value in sections where alfalfa is plentiful and cheap, because it is just what is needed with alfalfa to make a good ration, and it has been very badly needed. In proper proportions these two feeds provide all the nutritive elements required for a balanced ration, and the beet pulp supplies the succulence in addition.

Dried beet pulp is pre-eminently a food for dairy cattle, although scarcely less useful for other farm live stock.

SWEET CLOVER.

The Kansas Experiment Station in a recent publication makes it plain that sweet clover, a hitherto neglected plant, despised as a pernicious weed, has very considerable agricultural value. It is stated that "as a soil improver it is unexcelled; for pasturing purposes it has considerable value; and as a forage crop it can be utilized to good advantage where alfalfa or red clover can not be successfully grown."

Attention is called to the fact that "there are several varieties of sweet clover, of which the common white sweet clover and the large biennial yellow sweet clover are the most important. The white variety is generally to be preferred for farm purposes, although the biennial yellow is sometimes preferred where hay production is desired." Sweet clover is adapted to a wide range of soils, and while it does best on good soils, it will make a satisfactory growth on very poor soils.

Grown on good soil and properly handled it makes a fair quality of hay which may in many cases be substituted with advantage for the more valuable alfalfa and clover hays. In actual nutritive constituents it is practically equal to these. It makes an excellent pasture for cattle, sheep, horses, and hogs, and for this purpose may be profitably grown on very poor and rough land.

For quick results in improving the soil sweet clover is superior to most other crops. Its ability to thrive well on soils lacking in humus or otherwise badly run down makes it especially adapted for this purpose. Like alfalfa, cowpeas, and other legumes, it has the ability to obtain nitrogen from the air by means of the nitrogen-gathering bacteria which live in tubercles on the roots of the plants, thus adding much nitrogen to the soil in which it grows. When plowed under for green manure or allowed to remain on the land this crop is a very efficient one in building up the humus content of the soil. The large roots, which penetrate deep-

ly, break up the lower layers of the soil and add much humus thereto when they decay, thus improving the physical condition of the soil to a considerable depth below the depth of plowing. Sandy as well as heavy clay and hardpan soils, which would not otherwise produce satisfactory crops, may be so improved in texture by growing sweet clover for a few years that they become quite productive.

A weed has been defined as a plant which has not yet found its proper use. In view of present knowledge of its possibilities sweet clover can no longer be regarded as a weed.

DEATH CALLS CHAS. G. LATHROP

After a long period of ill health, Chas. G. Lathrop has passed away. To the world in general he was best known because of his activities at Stanford University, of which institution he was manager and treasurer. To Journal readers, however, Mr. Lathrop was best known as the owner of Alta Vista herd of registered Guernseys. Mr. Lathrop has for years been the owner of one of the finest Guernsey herds in the West, and his cattle have won a long series of victories in the show rings of the coast.

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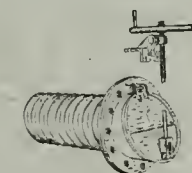
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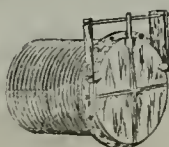
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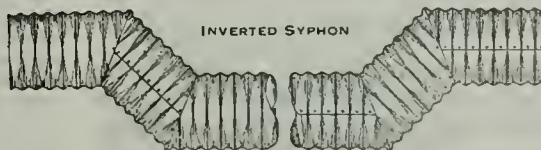
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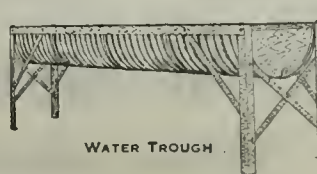
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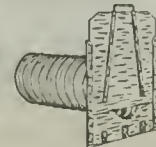
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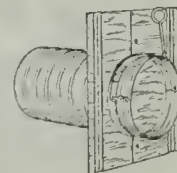
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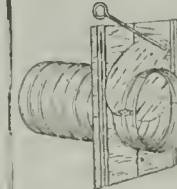
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THE DAIRY

Effect of Rest Period Upon Subsequent Milk Flow

The Live Stock and Dairy Journal—I would like to get your opinion on a matter which is of considerable importance to me, but upon which I have not thus far had an opinion expressed which I consider authoritative. The question is, does the length of time a cow is dry affect the flow of milk or the amount she gives after she comes fresh? To give you a clear idea of what I mean, I will put it this way: In my herd I have two cows that I bought from parties who couldn't tell me whether they were with calf or not when I bought them. One of them gave only a small quantity of milk and I decided it would be just as well to let her dry up, believing from what I could learn, that she would come in fresh in about three months. Instead of three months, it was nearly six months, and by that time she was hog fat and my milker

declared her to be N. G. as a dairy cow and fit only for beef. However, she has turned out to be a six-gallon cow.

The other cow did not show up very well, but kept up quite a uniform flow of milk, and it was almost impossible to dry her up. We finally succeeded in drying her up just about three weeks before she came fresh. She has been fresh only a short time now and does not give any more milk than she did, say three months ago.

Now the question arises, does she not give a small flow because she was not turned dry sooner, or is there likely some other cause? If I had turned her dry six months ago, would she likely be giving a much greater quantity of milk now? And had I kept on milking the first mentioned cow up to say three weeks of the time she fresh-

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We have some especially good young bulls sired by KING'S VALET and BORELLO'S GOLDEN LADDIE. These bulls are vigorous, growthy, and are out of some of our most profitable cows. Our prices are reasonable and afford any dairyman an opportunity to secure pure, productive Jersey blood at a price he can well afford to pay.

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There is lots of valuable information in this little book for you, because it has been compiled by an expert who knows how dairy cows should be fed to give the most milk.

Statistics show that the average cow in California is producing milk at a loss for its owner. You ought to know why this is true and guard against a loss in your own dairy cows. You ought to know about

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It won't take a long time to read this book nor is it difficult to understand; every word in it has a meaning and every paragraph talks common sense about making profit from dairy cows.

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Mention the Live Stock and Dairy Journal When Writing to Advertisers.

ened, would she be giving the quantity that she does? I would be pleased to have you answer the foregoing either from your own experience or from the experience of some one else.

F. H. J., Tulare County, Cal.

It has been demonstrated through a number of experiments at different stations that milk flow is affected somewhat by the length of time the cow was dry, but every dairy cow is a law unto herself. Some are naturally persistent producers, some have a naturally short lactation period, and in others the length of the lactation period is undoubtedly influenced to some extent by habit, fixed by the way the cow was handled during her first periods of being in milk. Your question was referred to Frank L. Morris, of A. W. Morris & Sons Corporation, Woodland, Cal., as he has been actively engaged in the testing of dairy cows for more than ten years past, and in the hundreds of dairy cows that he has passed upon for fitness to remain in the herd, the question of duration of lactation period, and condition of cows before freshening, has undoubtedly been one that has received a great deal of close observation. This is what Mr. Morris has to say:

"The length of time which a cow is allowed to run dry does, in most cases, affect the milk flow after coming fresh again. The extent to which her production will be influenced by this rest will depend largely upon her performance during previous lactations, and her physical condition when turned dry. It would be impossible to determine the cause of the small milk flow which your cow is giving without knowing something of her condition at time of calving, and how she had been handled previously.

"I would not condemn the cow on

her present performance, as it is quite possible that she may be the better of the two cows, if given an equal chance. Judging from the persistent qualities which the cow has shown, it is very probable that she has been a consistent producer since first coming in milk, and perhaps has never been allowed sufficient time in which to restore her strength and vitality. It is very likely that if she had been given two months rest on good feed, she would have proved to be the equal, if not superior, to the other cow. I am also inclined to believe that the fat cow would have done just as well, and possibly better, had she calved three months after going dry, instead of six. We would feed this cow a little extra, and not breed for at least three months from calving, with a view to giving her from two to three months rest, and if the result is not satisfactory next time, turn her to the butcher.

"Our experience has taught us that it is not good policy to breed a cow under two or three months from calving. She can then be milked profitably for ten months, after which she can be carefully dried and given a rest of six weeks to two months.

"It is during this period of so-called rest that many dairymen make the mistake that costs them much of next year's profit. While the cow is dry and apparently making no return for her feed, she is, in reality, doing her heaviest work. She is growing a calf and at the same time storing up energy and a little surplus strength to draw on during the next year's work, and it is right here that her future record is largely made. Instead of turning her out to short feed in a dry pasture, as is too often done, she should, by all means, be having the best possible feed and care. If she should, in addition to nourishing a

LD]

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strong, healthy calf, take on a few pounds of fat, her surplus feed has not been wasted, for she will return several times the cost at the pail.

"It matters not what the ability of the cow may be, by continuous work and sufficient rest, her vitality may

be reduced to such an extent that she will be unprofitable in the dairy. The dairy cow should be well fed at all times, and there is no question but that a greater loss is incurred by short feeding just before calving and while dry, than when in milk."

Fit Mates For Great Cows

By Charles Hughes

The extraordinary success which A. W. Morris & Sons Corporation, Woodland, California, have achieved in developing cows of great production of both milk and butter fat, in their herd of registered Holstein-Friesians, is already written large in the recent history of the breed. The making of one great record after another by more than fifty different cows in the herd coming as they have within the short space of two years, has commanded the attention of Holstein breeders all over America, and up to the present time the females in the herd have monopolized the lime light. Now that so many great records have been established and owners of other registered Holstein-Friesian herds are beginning to look to the Morris herd for herd headers, the question naturally arises as to what provision has been made in mating these cows so that their wonderful production may be transmitted to their offspring and thereby carried into other herds. Thus is the lime-light shifted upon the herd bulls at the head of the Morris herd, and they stand out clearly as fit mates, both in production and type, of the great producing cows in the herd.

The senior herd bull, King Segis Pontiac Emperor, combines in the best manner the blood of the leading sires of the breed, King Segis, Pontiac Korn-dyke and Hengerveld De Kol. This bull is also a show type of high excellence, having been twice grand champion at California State Fair, and was defeated finally only by a close margin by his herd mate, Lorena Korn-dyke.

The next herd sire, Prince Gelsche Walker, is a bull of high individual quality, and comes from one of the greatest producing families of the breed. He carries the blood of three families of three generations of thirty-pound cows.

The third herd sire, Lorena Korn-dyke, has been first in his class for the three years he has been shown at California State Fair, and came into greater prominence last year when he defeated King Segis Pontiac Emperor for grand championship honors. It is enough to say, as to the quality of his blood, that he has 70 A. R. O. sisters, four of which average over 30 pounds of butter in seven days.

The fourth sire is Aralia King, son of the grand old cow Aralla De Kol, the first cow in the world to produce 23,000 pounds of milk in one year on semi-official test, and whose record for persistency is well known to Journal readers. The first daughter of this bull to come into milk made over 20 pounds of butter on official 7-day test.

The youngest sire in service is Segis Pontiac De Kol Burke, and while his sons and daughters are all in their calthood, they show the high type to which their breeding entitles them. This young sire will be given a full opportunity in the Morris herd to establish himself as one of the greatest transmitting sires of the black and white breed. He is a son of Riverside Sadie De Kol Burke, the greatest long distance milk producer on record, and is sired by King Segis Pontiac Emperor, thus combining the blood of the highest producing families of the breed.

All of these sires are comparatively young. Their first daughters are just now coming into milk, and are being put on test as they freshen. There

is every indication that some exceptional producers will be uncovered among them, but of these we shall know more later on.

The bulls sired by this great group of bulls, and out of some of the best cows in the herd, are an asset to the dairy interests of California, but their value in the right herds is such that they have become of national importance in Holstein-Friesian circles, and it is more than likely that some of the very best of them will go out of California. During a recent visit at the Morris farm, which visit was devoted very largely to a study of the bulls in the herd, we found a number that deserve special mention in view of the blood that they carry, and the very high individual quality and show type which they possess.

We found three sons of King Segis Pontiac Emperor that would be hard to beat both on individual merit and on proven productive power of the blood they carry. The oldest one, Segis Pontiac Acme, is quite an unusual type of bull, and has an individuality that makes him stand out even among good ones. He is out of Sadie De Kol Acme with a semi-official record of 19,000 pounds milk, \$85 pounds butter in one year. He is a grandson of Riverside Sadie De Kol Burke, semi-official record 23,826 pounds milk, 1085 pounds butter in one year. The dam, granddam and great granddam of this bull have records averaging 31.57 pounds butter in 7 days, and 1080 pounds in one year. He is 75 per cent brother to the herd sire Segis Pontiac De Kol Burke, mentioned previously.

King Segis Pontiac Emperor 3d, by the same sire and out of Molly Duchess Daughter, is a beautiful individual. His dam has a semi-official record of 19,753 pounds of milk, \$70.34 pounds butter in one year, and she has one 21-pound and one 33-pound sister, one with 1002 pounds butter, and one with 814 pounds butter on year's test. The dam of this bull is an unusually good individual, carrying a perfect udder with large, well balanced teats. This young bull combines type and production in a degree that is rare in any herd.

Another son by King Segis Pontiac Emperor that is outstanding as an individual and as to production behind him, is Juliana De Kol King Segis. His dam, Juliana De Kol, was former world's record two-year-old, and was twice grand champion at California State Fair. She has already demonstrated great transmitting ability through her son Juliana King of Riverside, and this young bull figures to develop into even a greater sire than his half brother.

The writer has a bit of sentimental interest in the Morris herd bull Prince Gelsche Walker, because he was bred on a farm close to the old home town in New York State, and because his breeder is one of the best types of man we have ever known. So there is a little added interest attached to the finding of good performance on the part of this bull. Two of his young sons are of especial excellence. One of them, Prince Korn-dyke Walker, is out of that excellent young cow May Korn-dyke 2d, with an A. R. O. record of 26.30 pounds butter in 7 days at three years of age. Among the eleven nearest dams of this young bull are seven 30-pound cows, the whole eleven have records averaging 29.40 pounds of butter in 7 days.

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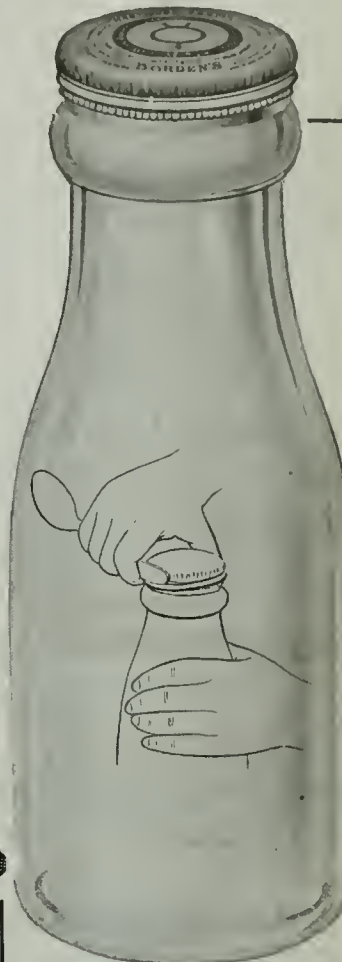
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FIVE HERD BOARS IN THE HERD. Stock of all ages for sale.

We offer for sale Bull Calves of A. R. breeding on both sides. Some of the younger ones are by DON ADONIS OF LINDA VISTA, whose dam, two grand-dams and two great-grand-dams have an average record of 714 pounds butter-fat in one year.

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Farm Located Eight Miles From Sacramento on Folsom Road.

Walker that caught our eye, is Prince Prilly Walker. This fine young bull is out of Prilly Princess Walker, a young cow that made an A. R. O. record of 25.29 pounds butter in 7 days at the age of 2½ years, and is sister to the world's record Junior 2-year-old, Lady Paul Lavardy 3d, 921 pounds butter in one year. Her dam has two 30-pound daughters, and is the best transmitting daughter of the famous cow Prilly. Nine of the nearest dams of this young bull average 28.55 pounds butter in 7 days.

There are a number of excellent young bulls sired by Aralia King, in the herd at the present time, a number of them out of daughters and sisters of Riverside Sadie De Kol Burke. The most noteworthy of these is a young calf out of Sadie De Kol Acme. His three nearest dams have average records of 25.306 pounds of milk and 1037 pounds of butter in one year.

We noted also a very fine young bull sired by Aralia King and out of a junior 2-year old that has a record of over 17,000 pounds milk and 676 pounds butter with first calf. In fact, she began her test when she was only 19 days over 2 years old.

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For Sale—Six sons of TIRZAH LA POLKA PIETERTJE LAD, who has forty-three close relatives who have made 30 pounds or over of butter in seven days.

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Increase the value of your herd by introducing the blood of the greatest producers of the breed. We offer a number of Choice Grandsons of King Segis. Also a number of Grandsons of the world's record cow, Creamelle Vale. Write or call and inspect our herd.

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Bull Calves for sale from A. R. O. dams, sired by a grandson of King of the Pontiacs, also by a son of Colantha Johanna Lad.

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HOLSTEIN FRIESIANS

We offer a grandson of KING OF THE PONTIACS, nearly white. Fine individual; 17 months old. Price \$250.00.

McALISTER & SON,

CHINO, CALIFORNIA.

Great things are expected of the junior herd sire Segis Pontiac De Kol Burke. He has been mated with some of the best cows in the herd, and while it will be at least three years before we can get a line on the yearly production of his first daughters, yet some of his sons will be in service long before that. By this royally bred young bull, a son was recently dropped by Pet Salambo of Riverside. The mother then promptly proceeded to break the California Holstein record for 7 days, by producing 33.05 pounds of butter under official test, displacing the former record holder, Mabel Haskins of San Jose. Pet made a year's record last year of 1002.53 pounds of butter. The records of the two nearest dams of this young calf average \$17.30 pounds milk, 32.67 pounds butter in 7 days; 25.557.1 pounds milk, 1043.83 pounds butter in one year. The combined 7-day records of his dam and sire's dam is a world's record. His dam has a 31-pound sister and two others with yearly records above 800 pounds. Bulls of this breeding are rare anywhere.

We noted another very fine young son by this sire and out of Creamcup, a fine young cow sister to Aralia De Kol. She made a yearly record as a 4-year-old of 19,993 pounds of milk and 877 pounds of butter. The dam of this calf and his sire's dam average 28.52 pounds butter in 7 days, 24,410 pounds milk and 981 pounds butter in one year, making him also a bull of rare breeding.

There could be pages written about many other young bulls now coming on in the herd, and most of which will go out to buyers all over the West before they reach breeding age even, but there are few, if any, other herds in the whole country where one can find so large a group of young bulls of equal breeding and type.

In spite of the widespread attention which has recently been centered upon the bulls in the Morris herd, the cows will not allow themselves to be left out of the picture even for a moment. Pet Salambo of Riverside hunk up a 7-day state record recently with a production of 586.30 pounds milk, 33.05 pounds butter, made 64 pounds of butter in the first 14 days, and at the time of writing is going well on 30-day test. Year before last, this cow made 716.11 pounds of butter in 320 days, freshened and made 610.40 pounds milk and 31.57 pounds butter in 7 days, and finished her year with 22,287.80 pounds milk and 1002.43 pounds butter.

While it is hazardous to make any attempt at prediction as to what a cow is going to accomplish on a long distance test, it would not be surprising if the Morris herd will have the distinction of having the world's first 30,000-pound milk cow. The cow that holds out this hope is Tilly Alcartra. She is now on semi-official test, and at the end of her first six months she has produced 16,737 pounds of milk and 532 pounds of butter fat. She is a marvel of deception, as a glance at her picture elsewhere in this issue will show. She is a beautiful type of dairy cow, but shows no extraordinary capacity, and carries a comparatively small udder. The chief hope in her ability to pass the 30,000 mark lies in the fact that she has a habit of maintaining a high production during the latter part of her lactation periods, and at the present time she is yielding 86 pounds of milk daily.

CHOICE BULLS---

Individual quality. VISIT OUR FARM OR WRITE FOR PRICES AND PEDIGREES

J. H. HARLAN & CO.
WOODLAND, CALIFORNIA

We offer a number of choicely bred registered Holstein-Friesian Bulls, sired by RIVERSIDE PRINCE. These bulls are rugged, well marked, and of high individual quality.

MILLBRAE DAIRY HOLSTEINS

PROPERTY OF ESTATE OF D. O. MILLS

We have for sale a few Bull Calves of exceptional breeding and individual merit. The dams of these Bulls are among our heavy milkers.

Sired by our herd bulls that are rich in butter blood. As our bulls are usually sold before reaching breeding age, it is advisable to make an early selection.

WE HAVE NO FEMALES FOR SALE

Correspondence Invited

Visitors Welcome

14 Miles From San Francisco on Southern Pacific
or San Mateo Electric Cars Leaving 5th and Market

MILLBRAE DAIRY
MILLBRAE, CALIFORNIA

The McCloud River Lumber Co. McCloud, California

High Class Purebred Holstein Bulls For Sale

Write for Prices and Pedigrees

LAST CALL FOR GEO. A. SMITH'S
FIRST SALE OF REGISTERED HOLSTEINS, Corcoran, Cal., June 16, 1914
Where the Greatest Sires of the breed will be represented by their Sons, Daughters, Grandsons and Granddaughters. One of the most promising lots ever offered at BIDDERS' PRICES. They will make BIG MONEY for the purchaser. Consider the significance of these offerings as representative of the character of this sale.

Grandson of KING SEGIS, the first sire to sell for \$10,000, sire of more Junior 2-year-old 20-lb. daughters than any other one sire.

Granddaughter and grandson of Calamity Jane's Paul, whose dam, Calamity Jane, was the winner of the Milk and Butter Contest over all breeds at the Provincial Dairy Show, Guelph, Ontario, 4 successive years.

Sons of Judge Hengerveld De Kol, 12 A. R. O. Daughters, considered the best son of HENGERVELD DE KOL—sire of more 20-lb. daughters than any other one sire.

Granddaughters and grandsons of Gordon Glen Pontiac, sire of FINDERNE P. Netherland, WORLD'S CHAMPION JR. 2-YR. OLD.

Grandsons of PONTIAC KORNDYKE, sire of more 30-lb. daughters than any other one sire, 3 of which have made WORLD'S RECORDS. Grandson of the WORLD'S CHAMPION, K. P. Pontiac Lass, 44.18 lbs.

Granddaughters of Johanna Clothilde Lad, son of the St. Louis WORLD'S CHAMPION, Sarcastic Lad, grandsire of 3 WORLD'S CHAMPIONS.

Grandsons of Contest Colantha Champion, whose dam holds the WORLD'S MILK RECORDS for each of her first three lactation periods.

PROVEN PRODUCERS BY THE OFFICIAL TEST.

Many are bred to a son of the best daughter of KING SEGIS, the greatest sire of his generation. I could continue this line indefinitely and still leave many good ones unmentioned. If you want TYPE-GREAT PRODUCTION and PREPOTENT blood all combined, you can get it here—SALE OF THE YEAR to secure HOLSTEINS OF CHARACTER, blood that PRODUCES WORLD'S CHAMPIONS. Write now for SALE CATALOG.

GEO. A. SMITH

CORCORAN, CALIFORNIA

AUCTION

125---Head of Holstein Cows and Heifers---125

On the Ginn Ranch, 2 Miles Southwest of Corcoran

Seventeen Miles South of HANFORD. Buyers from a distance take Santa Fe train to Corcoran. Conveyances in waiting morning of sale.

Wednesday, June 24th, 9 a. m. Sharp

The owner is closing out his choice herd of Grade Holsteins owing to the fact that he is going into the breeding of purebred Holsteins exclusively, and he has instructed us to dispose of his fine herd on above date

POSITIVELY WITHOUT LIMIT OR RESERVE
HERD INCLUDES:

75 as fine grade Holstein Cows as can be found in the San Joaquin Valley, and it is doubtful if any better herd can be found on the coast. These cows have been carefully selected and culled until they are an extra fine lot of producers. They are all young and in the best of condition, and many will give as high as nine gallons of weighed milk when fresh. They are all large milkers. Many now fresh and others coming in soon. In fact, an extra choice lot of Holstein cows.

25 Holstein Heifers from 18 months to 2 year olds. All carefully selected from the best cows in the herd and sired by purebred Holstein bulls. Nearly all of these heifers are heavy springers.

25 Heifer Calves from 4 to 6 months old. A choice lot and also sired by purebred Holstein bulls.

One Purebred Holstein Bull, 3 years old. An exceptionally good individual.

Purchasers in the market for High-Class Holstein Cows and Heifers should not fail to attend the

BIG SALE OF THE YEAR

Prospective purchasers are invited to visit ranch prior to sale and see these cows milked daily at 3 p. m.

TERMS: Cash unless arrangements for credit are made prior to sale. Free lunch at noon. Don't miss this

GENUINE CLOSING OUT SALE

W. H. GINN, Owner. RHOADES & RHOADES, Auctioneers.
Office, 1501-35 South Main Street, LOS ANGELES, CAL.

Making Five-Cent Milk On Thousand-Dollar Land

(Written for The Live Stock and Dairy Journal by Howard C. Kegley.)

When it comes to disposing of milk in wholesale quantities, Herman Michel, who runs a big dairy down on the Del Rey flats, between Los Angeles and the ocean, deserves honorable mention. Mr. Michel's dairy delivers 1400 quarts of milk every morning to one customer. The patron is Uncle Sam. The Michel dairy has the contract for supplying milk at the National Home for Disabled Volunteer Soldiers, which is located near Sawtelle, Cal., about five miles from the Michel dairy.

Mr. Michel has held this government contract for about fifteen years, and he runs little risk of losing it, for he has the only dairy in the district which can furnish the quantity of milk needed by the Soldiers' Home. The contract price for this product is 20 cents per gallon. The milk is delivered by a three-ton Sampson truck which belongs to the Santa Monica Dairy Company—an enterprise owned by Mr. Michel.

Two hundred and forty head of Holstein cows are being milked at the Michel dairy. The Soldiers' Home takes the entire morning supply, and the evening's milk is picked up by the Santa Monica Dairy Company's truck and taken to the milk depot for pasteurization and distribution.

The Santa Monica Dairy Company is located at Ocean Park, between Santa Monica and Venice. Ocean Park is municipally a part of Santa Monica and the three towns are only separated by imaginary lines, so the dairy company has a five-miles-long strip of territory along the beach to cover each night and morning. Approximately 25,000 people are supplied with milk every day. The company makes its deliveries with five horse-drawn delivery wagons in the winter and seven outfits in the summer. The beach trade is naturally heavier during the warm months, because of the transient business. The company obtains its milk supply by picking up the evening's milk from the Michel dairy and gathering up small amounts of milk and cream along the country roads, wherever there are suburbanites who keep a half dozen or more cows. The Santa Monica Dairy Company pasteurizes, at its Ocean Park plant all of the milk and cream it uses, with the exception of its supply of baby milk. The product is put up in glass containers with pasteboard caps. The supply of milk which goes to the Soldiers' Home from the Michel dairy is not pasteurized, however. It is merely

cooled down to fifty degrees before being delivered.

Here, then, is the margin of profit between wholesale and retail trade. Mr. Michel gets five cents per quart at the Soldiers' Home for his morning supply of milk delivered in bulk, and ten cents a quart for his evening supply of milk when his Santa Monica Dairy Company delivers it from house to house. Cream retails at forty cents per quart. The Michel dairy only separates enough of its milk to secure about fifty gallons of skim for calf food.

From start to finish the keynote of the Michel dairy is quantity rather than exceptional quality. The plant is absolutely sanitary of course, but no expensive details of sanitation are incorporated into the plan—no milking through antiseptic gauze nor dressing in white duck; no washing of the hands after milking each cow. All that sort of thing is missing and yet the milk supply is handled with reasonable precaution—everything is steam cleaned and the milkers are very careful in their methods.

The point is that Mr. Michel is selling half of his milk at a low wholesale price and business training has taught him that he must keep down the overhead expenses in order to produce milk from thousand-dollar-an-acre land and realize a profit on it when selling it at twenty cents per gallon. Hence his reasons for not weighing and mixing the milk from certain groups of cows, likewise his idea of keeping a herd that assays 95 per cent Holstein. What he wants is milk, and lots of it—the amount of butter fat that the milk from his cows contains is seemingly a matter of little concern to him. The milk standard ranges from 3.5 to 3.7. In the Michel herd are quite a number of registered Holsteins and the dairy has four splendid Holstein bulls. Such cows as are kept will give about four gallons to a milking when fresh and will average about three gallons per day during the entire milking period. The heifers are bred when 3 years old, and cows are allowed six weeks of rest before calving.

One very commendable thing about the Michel dairy is the fact that promiscuous vealing is not resorted to. Every heifer calf that is dropped is saved. At the present time about forty fine calves are being fed. The fact that heifers are not bred until 3 years old is another good point, as also is the fact that green stuff is not milled through the herd too fast. Many dairymen probably go wrong in this regard. The feeders at Michel's

REMEMBER

That in selecting a bull for service in building up your dairy herd to greater capacity for the production of milk and butter fat, it is not enough that he is simply pure bred. See to it that he carries a large volume of the blood of

PROVEN PRODUCERS

You can realize your wishes for cows of large production only by breeding to a bull of tested and proven ancestry. The closer up his blood is proven, the more certainly you can depend upon increased production from his daughters.

A large number of the cows in our herd of registered Holstein-Friesians are proven producers, and their production has been made a matter of permanent record through Official and Semi-official testing. Four cows in our herd have each made over 1000 pounds of butter in 365 days under semi-official test. Seven of our cows have each made over 30 pounds of butter in 7 days under Official test. Fifteen of our cows have semi-official records averaging 721.13 pounds butter fat and 20,525 pounds of milk in 365 days. Forty of our cows, a large number of which are heifers with first calf, have the high average production of 620.98 pounds butter-fat in semi-official test in 365 days. The high average production of a large percentage of our cows is now well established, and to mate with them we have a group of herd bulls of the highest type and carrying close up the blood of some of the greatest proven producers of the Holstein-Friesian breed. Following is a brief outline of their breeding:

Our senior herd sire, **KING SEGIS PONTIAC EMPEROR**, is a winner of three first prizes and two championships at California State Fair. His individuality and breeding and the quality of his offspring stamp him as one of the best young sires of the Holstein breed. His dam (full sister to King of the Pontiacs) and his sire's dam (Pontiac Clothilde De Kol 2d) are both daughters of Pontiac Korndyke, and out of daughters of Hengerveld De Kol, giving him a double cross of the blood of these two sires, the combination that is producing a very large percentage of the great record cows. His sire's sire, King Segis, along with Pontiac Korndyke and Hengerveld De Kol have 23 thirty-pound daughters.

PRINCE GELSCHIE WALKER—The butter records of his seven nearest dams average 28.55 pounds in seven days, which is higher than the seven dams of any other bull on the Pacific Coast, except one of his sons. Five of the seven average 31.36 pounds. He comes of a combination that has produced three of the only four families of three generations of thirty-pound cows. His youngest daughters are among the most promising in the herd.

LORENA KORNDYKE—First Prize as a calf in 1911. First Prize Yearling, 1912. First Prize Two-Year-Old and Grand Champion Bull at California State Fair in 1913. His 70 ARO Sisters include four whose seven-day records average 30.21 pounds. One has a yearly record of 1090 pounds, and two others with first calves have records of 670 pounds each.

ARALIA KING—A son of Aralia De Kol, the first 28,000 pound cow on semi-official test. Beginning her record when past eleven years of age, she made 1142.32 pounds butter in a year. At 12½ years she made 30.14 pounds butter in seven days, and in two consecutive years gave 50,993 pounds of milk and 2103 pounds of butter. Her records are not approached by any other cow of her age. Aralia King's first daughter in milk has made an official record of 20.56 pounds butter at 2 year 4 months and 80.86 pounds in 30 days. He has been used on the daughters and sisters of Riverside Sadie De Kol Burke, thereby combining the blood of these two great cows.

SEGIS PONTIAC DE KOL BURKE—Son of the world's greatest milk producer, Riverside Sadie De Kol Burke, and King Segis Pontiac Emperor. In his veins flows the blood of the five greatest Holstein sires: De Kol Burke—7 thirty-pound daughters; Pontiac Korndyke—1 thirty-pound daughters; Hengerveld De Kol—8 thirty-pound daughters; King Segis—7 thirty-pound daughters; and King of the Pontiacs—thirty-pound daughters, more than any other eight sires. **SEGIS PONTIAC DE KOL BURKE** has young sons and daughters out of our greatest producing cows and a large number of our best cows are his calf to him.

Sired by these bulls and out of dams of proven production, we offer a very choice selection of bull calves. Buy one or more of them for future service in your herd. Our prices are well within the value of the individual, and owing to the constant test work carried on in our herd the blood of these bulls is constantly increasing in value even after they leave our farm.

A. W. MORRIS & SONS CORPORATION,

WOODLAND, CAL.



DUTCHLAND COLANTHA SIR ORMSBY—In the registered Holstein-Friesian herd at Vina Ranch, California. A sire with exceptional breeding, and a show individual of high excellence.



Cocoanut Oil Cake Meal Economical For Feeders Its Digestible Protein Richness Assures High Nutritive Value

Cocoanut Oil Cake Meal contains 16.4% Protein, practically all digestible, consequently the percentage of waste in the assimilation of this highly nutritious food is small. Because of this fact it is the most economical food to buy for Dairy Cows, Hogs and Poultry. Place your order now.

PRICES			
20 TONS	10 TONS	5 TONS	LESS QUANTITY
Per Ton \$25.	\$25.	\$25.50	\$26.

f. o. b., Southern Pacific cars in 20-ton lots.
Cartage in less than car lots: 1 Ton or more, 75c per ton; Half to 1 ton 75c; Half ton, 50c; 1 or 2 sacks, 25c.

Terms: Net cash, immediate payment. Prices subject to change without notice.

When Ordering Address Dept. D-1

PACIFIC OIL & LEAD WORKS

Manufacturers

155 Townsend St., San Francisco, Cal.

Free Sample
Sent On
Request

claim that excessive green feed produces a big milk supply but overworks and ruins the cow sooner or later—usually sooner. Some of the points in this paragraph are little things that Mr. Michel probably brought with him from Switzerland—bedrooms of dairy sense, maybe, handed down by a string of Swiss ancestors who were good dairymen.

Quantity is the watchword at Michel's, but it is not obtained at the expense of the cow's constitution. Good feed has more to do with it than anything, unless perhaps, good milking. The milking is done by eight Swiss and German milkers. The foreman—a married man—gets \$65, house rent and family board; the others—single men—receive \$45 per month in addition to their board and room.

R. E. Flatley, bookkeeper at the dairy, and general manager when Mr. Michel is not present, estimates that it costs thirty-two cents per day to board each milk cow.

At night, in the milk barn, each cow receives a generous forkful of alfalfa hay. After cleaning it up, she gets twenty-five pounds of corn ensilage. The morning bill of fare is alfalfa hay followed by from six to seven pounds rations of alfalfa meal with dried beet pulp in molasses, the proportions being two sacks of alfalfa meal to six of the beet and molasses compound. Mr. Flatley expresses the belief that the dry pulp and molasses compound moistened is superior to green sugar beet pulp, as a milk maker. After leaving the milk barn the cows are given a load of alfalfa hay if they are running on pasture. They also receive hay in the corrals when they are not on pasture.

The cows are milked in a stable which is double-gabled and 240 feet long. They are handled in eight thirty-cow strings, by eight milkers. Each cow has her own place and is held by a common two by four stanchion. The floor of the barn is ditched or guttered cement in sections nine by twelve inches, to prevent the cows from slipping. The floors have a two-inch slope from manger to gutter, for drainage. Behind the cows is a cement gutter ten inches deep and fourteen inches wide, having a gradual slope toward the rear of the barn. The interior of the barn is so arranged that it can be easily flushed out with a hose after the milking is done. Between each double row of stanchions is a wide alley with a narrow-gauge railroad track on which the feeders push their tram-cars laden with hay or ensilage. The feed is placed in wooden mangers in front of the cows. The herd is salted once a week. Fresh water is always to be had at a cement tank in the forty-acre corral.

The milk house is not an imposing structure, but it serves its purpose well. Live steam is used for cleaning and purifying all of the containers used on the premises.

At the present time there are 390 cows, heifers, bulls and calves on the place. There are about 310 milk cows in the bunch. Mr. Michel has about 166 acres of alfalfa pasture available.

The ranch has four stave silos with a combined capacity of one thousand tons. Mr. Michel raises about thirty-five acres of corn for ensilage and buys the remainder of the supply at from \$3 to \$3.50 per ton. About 1500 tons are consumed in the course of each year.

About fifty acres of alfalfa are grown for hay, but it is not of the best quality, for the reason that it is sometimes tainted by the prevalence of considerable wild mustard. When baled alfalfa is needed it is purchased at Chino or Wineville at about \$14 per ton.

Herman Michel is a man seemingly but little past the middle meridian of life. He came to this country from Byrre, Switzerland, with a good education in his possession. For a time he was foreman of the milkers on the

late "Lucky" Baldwin's ranch at Santa Anita. After a while he bought out and conducted a little dairy near Santa Monica. In the course of natural event he came into possession of two hundred acres of land on the Del Rey flats near Venice, Cal. It is safe to say that he did not pay more than \$400 per acre for the tract. Since then he has been conducting a dairy and supplying Uncle Sam with milk for the Soldiers' Home a few miles distant. Today the 200-acre Michel dairy would, in all probability, sell for \$1000 per acre. This estimate is based upon the fact that unimproved land directly across the road is now held at \$1700 an acre. Figuratively speaking, the Michel dairy has supported itself and its proprietor while the 200 acres of land have increased in value at the rate of \$100 per acre each year for the past twelve years.

That's not so bad for a fellow who was classed as a poor boy when he came to this country. Figure in his Santa Monica Dairy Company, his interest in the Imperial Ice Company at Ocean Park, and other valuable holdings, and we might be able to make him eligible to pay income tax this year.

R. E. Flatley, who is monarch of what he surveys when Mr. Michel is off the premises—whose real work is that of keeping books for the dairy—used to be a meek and humble dairy delivery wagon driver for the Santa Monica Dairy Company. Verily, it's hard to keep a good man down!

PRIZES OFFERED BY THE HOLSTEIN-FRIESIAN ASSOCIATION OF AMERICA—SEASON OF 1914.

The Holstein-Friesian Association of America, through its Committee on Prizes, F. L. Houghton, Brattleboro, Vermont, Chairman, announces the following schedule of prizes for the fairs of 1914.

It will be noted that the present offerings, in addition to liberal prizes for exhibition of cattle, include prizes for dairy butter and for cheese made from milk of registered Holstein-Friesian herds, and for exhibits of milk and cream.

The prize money offered fully covers each regular classification, except champions and grand champions, thus affording winners of minor prizes as well as firsts an opportunity to profit thereby. The National Dairy Show is especially favored with an award of \$1,500.00 cash.

It is now the practice of the Holstein-Friesian Association to regularly preserve and publish complete lists of the names and numbers of all prize-winning animals, and those constituting herds or groups. This method adds to the permanent value of the prize-winning animal, and likewise gives prestige to the successful breeder or owner. Each fair Secretary is now required to file a detailed report of the awards with the Secretary of the Holstein-Friesian Association, showing these facts, and all animals, to be eligible to compete, must be recorded in the Holstein-Friesian Herd Book, and stand in the name of the exhibitor as owner.

Exhibitors must file with the Secretary of the fair, the name and herd book number of each animal entered for these premiums, and such Secretary, in reporting the awards to the Secretary of the Holstein-Friesian Association, must give the name and number of each animal; otherwise, premiums will not be paid.

The Association also furnishes its official list of qualified judges, who may be employed to place the awards.

The following are the prizes awarded at Pacific Coast fairs:

California

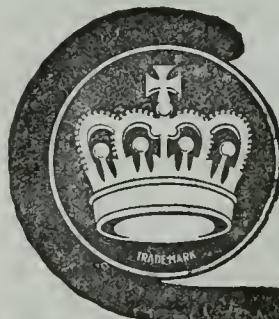
California State Fair, Sacramento, Cal. Fifteen per cent cash will be added to each cash prize in Class 43,

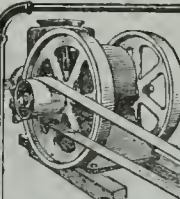
The Gasoline of Quality RED CROWN

—a product of selected grades of California crude oil, distilled and re-distilled, treated for the elimination of all foreign matter and by means of exhaustive laboratory tests, maintained at the most rigid standards of uniformity and high quality—in short, the best gasoline the Standard Oil Company can make.

Red Crown signs are furnished to all dealers handling Red Crown Gasoline. Watch for the Sign or ask our nearest agency about delivery in bulk.

Standard Oil Company
(California)





Freeport Gasoline Engine

The Engine of Perfect Design and Simplicity.
Everybody's Favorite.

Is Operated either with Gasoline or Distillate. Fully Guaranteed to Give Entire Satisfaction.

Built on modern lines—sizes 1½, 3 and 5 Horse Power.

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Pumps! Pumps!

for every service and use.

National Centrifugal Pump

has ring-oiling bearings. It is fitted with one inside and one outside bearing between the pulleys, keeps runner in perfect alignment, doing away with friction and preventing bearings from beating. Long packing box. Guaranteed, modern up-to-date. We also carry the largest line of *Wind Mills, Tanks, Pipe, Pipe Fittings, Hose, Brass Goods, etc.*

Send for our large Catalog. Mailed free.

WOODIN & LITTLE, Pump House
33-41 Fremont St., San Francisco, Cal.

RHOADES & RHOADES EXPERT LIVE STOCK AUCTIONEERS

HORSES, HOGS, COWS—Sales Conducted in All Parts of California and Adjoining States. Write for Dates and Terms.
OFFICE, 1501-3-5 SOUTH MAIN STREET, LOS ANGELES, CAL.

Sections 495 to 500, inclusive, and 504 to 510, inclusive, and 514 to 518, inclusive. Sections 643, 644 and 645, 5-day Butterfat Production, silver cup to each prize winner, if a registered Holstein-Friesian, but no contestant shall receive more than two cups. This offer is based on the classification as it appears in the premium list for 1913.

Idaho

Idaho Inter-Mountain Fair, Boise, Idaho. Silver cup for best Exhibitor's Herd. This offer is based on the premium list of 1913.

Northwest Livestock Association Show and Sale, Lewiston, Idaho. Forty per cent cash will be added in Class 23, Lots 147 to 152, inclusive. This offer is based on the classification as it appears in the preliminary premium list for 1913.

Washington

Spokane Inter-State Fair, Spokane, Wash. Twenty per cent cash will be added in Class 21, Lots 320 to 330, 337 to 341, inclusive. Dept. 6, Lot 1252, Farm Butter, silver cup to each prize winner, if made from milk of registered Holstein-Friesian herd. This offer is based on the classification as it appears in the premium list for 1913.

Washington State Fair, North Yakima, Wash. Twenty per cent cash will be added in Class 5, Lots 1 to 13, inclusive, and 20 to 24, inclusive. Division S. Milch Cow Test, each prize won by a registered Holstein-Friesian will be duplicated. Division Q, Class 2, Lot 1, each prize will be duplicated if won by Butter made from milk of a registered Holstein-Friesian herd. This offer is based on the classification as it appears in the premium list for 1913.

Oregon

Oregon State Fair, Salem, Oregon. Twenty-five per cent each will be added to each premium in Class 22, Lots 138 to 150, inclusive, and 157 to 161, inclusive. Class 29, Milch Cow Test, Lot 287, 25 per cent cash will be added. This offer is based on the Classification as it appears in the premium list for 1913.

WORTH CONSIDERING.

The months and years will go by with thousands of farmers who are pretending to keep cows for profit and nothing will be done in the way of better breeding. Thousands of herds there are in the country that ought to receive the baptism of better blood, but it will never come. The heifer will be no better than her mother; the bull will be selected not because the farmer thinks he can produce better cows but because his color markings suit and "he can be bought cheap." So low down on the scale of real betterment of dairy quality of

these men that they have made no progress in the way of better cows for the last 25 years, nor will they ever get out of their rut. And yet we would be almost willing to guarantee that their cows, poor as they are, if bred to a bull worth while, would bring heifers whose milk record the first year would average better than their mothers'.

Fully fifty per cent or more of the cows of the country, however, are in the hands of farmers who have no adequate idea whatever of how to improve the capacity of their cows, and this state of things will continue just as long as such men own cows.

The other day while talking with a farmer who lived in a neighborhood of so-called dairy farmers, we asked him if there was any increase of growth among those men in regard to breeding better cows.

"No," he said, "not now, all of them have improved that can improve and that is only about 10 per cent, and they are selling out and moving either to town or to some dairy section where men of better brains live, and do business. I don't blame them. It is mighty poor encouragement for a man to buy a first class bull and do the things that lead to improvement and have to live alongside of men who haven't an ounce of such impulse in them. There is a thick fog that hangs over such a neighborhood that makes it hard to breathe in."—Hoard's Dairyman.

A GREAT AYRSHIRE COW.

The Journal is advised by Mr. J. W. Clise, owner of Willowmoor Farms, Redmond, Wash., that his registered Ayrshire cow Lily of Willowmoor has completed her fourth year of production under official test. The average established by this great cow is the most notable persistency of high production yet recorded for the Ayrshire breed. Following are the figures for the four years:

1st year—921 lbs. milk, 347.02 lbs. butter fat; 2nd year, 12730 lbs. milk, 479.56 lbs. butter fat; 3rd year, 22106 lbs. milk, 888.70 lbs. butter fat; 4th year, 18227 lbs. milk, 694.43 lbs. butter fat. Total production in four years, 62,274 lbs. milk, 2409.71 lbs. butter fat.

In her third year's test, Lily of Willowmoor established a world's record for the Ayrshire breed, and her figures have been exceeded by only one cow up to the present time. Mr. Clise also states that the first daughter of Lily or Willowmoor to come into milk has produced over 11000 pounds of milk in one year as a two-year-old with first calf, under official test, and that she shows every indication of exceeding the production of her dam when she reaches mature form.

Visitors at the Annual Picnic at



DE LAVAL

as superior to other separators as other separators are to gravity creaming

WHY STOP HALF WAY IN BUYING A CREAM SEPARATOR?

THE ABOVE HEADING SUMS UP the cream separator case, as it concerns every prospective buyer of a separator and every user of an inferior separator, in a few words as it could well be put.

OTHER SEPARATORS SKIM cleaner than is possible on the average with gravity creaming, and De Laval Cream Separators skim as much closer still than other separators, particularly under the harder conditions of cool milk, running heavy cream or separating the milk of stripping cows.

OTHER SEPARATORS PRODUCE A cream superior to gravity creaming, and De Laval cream is smoother, less frothy and so much better than the cream of other separators that De Laval made butter always scores highest in every important contest.

OTHER SEPARATORS SAVE TIME and labor over gravity setting or creaming of milk, and De Laval Separators by reason of their easier turning, greater capacity, easier cleaning and easier handling save a great deal of time and labor over other separators.

OTHER SEPARATORS SAVE THEIR cost every year, as a rule, over gravity creaming, and De Laval Separators save their cost every year over other separators and last from ten

to twenty years, or on an average five times as long as other separators.

DE LAVAL SEPARATORS COST A little more than other separators, but very little, and they soon save that small difference and go on saving it every few months, as other separators would go on wasting it, for all the years they last.

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TILLY ALCARTRA—On semi-official test in the registered Holstein-Friesian herd owned by A. W. Morris & Sons Corporation, Woodland, Cal. At the end of her sixth month on test she has produced 16,737 pounds of milk and 532 pounds of butter fat.

FARMERS MUST TEST

AND EXPERIMENT

We have been studying the American farmer for over fifty years. We have found him of all grades, types, and classes from the lowest, most stupid, and least intelligent man in society to the highest type of a thinking, progressive, intelligent student of his own business and the welfare of society in general. Out of this long time study we have worked certain conclusions which we find to hold good in every farming country.

1. That the forward looking farmer is invariably a reader and student of what other men have done and are doing in his line. These men are the owners of the best farms, breeders, and developers of the best live stock, makers of the largest profit, and possessors of the most wealth.

2. That such men have an eye out all the time for close observation and comparison of one year's experience with another, one way or method of doing farm work with another, one kind of machine with another, one kind of seed grain with another. You will find them intense students of buildings and methods of caring for all kinds of live stock. In a word, they are experimenters in advance of the experiment station.

Often the experiment stations could very profitably engage in a survey of what the most advanced farmers are doing before they attempt many of their expensive experiments. There is a progress here that is too little understood by our experiment station leaders.

This latter thought brings us down to the basal idea of this article. No real progressive farmer can possibly refrain from a certain amount of experiment work. He realizes that he must do so to keep alive and be master mentally of his farm and all it means. Such farmers are the real leaders of the agricultural world and high honor should be accorded them.—Hoard's Dairyman.

There is a steady demand for those good registered Jersey bulls out of the N. H. Locke Co. herd at Lockeford, Cal., and new buyers are regularly being supplied with herd headers from this noted herd. Among recent buyers who secured good ones are L. R. Branstetter of San Joaquin County and H. M. Flesher of Calaveras County. Mr. Branstetter secured Sunshine's Valet of L., sired by King's Valet, and out of a granddaughter of Lady of Lockeford, that made 67.93 pounds fat in 28 days under authenticated test. Mr. Fletcher secured Bonanza Boy, a promising young bull of excellent breeding.

James W. McAlister Jr., Secretary of California Holstein-Friesian Association, has left for the East, where he will select a lot of registered Holsteins that will add further strength to the breed in California. Mr. McAlister writes the Journal that he will offer these for sale immediately upon his return, and that in addition he will put a price upon every animal in his present herd at Chino. Some noted blood is represented in the present McAlister herd, and when these individuals are finally offered for sale there will be an opportunity to secure females with a breeding rarely offered in California.

Millbrae Dairy, owned by Estate of D. O. Mills, at Millbrae, Cal., is having a brisk demand for registered Holstein-Friesian bulls. As this farm is only fourteen miles from San Francisco by electric car, a great many intending purchasers of bulls have found it convenient to run down to Millbrae while making a trip to the city.

VETERINARY

Conducted by D. S. KAY, D. V. S.

Questions relating to the health of farm animals will be answered in this column free of charge. Where an immediate reply by mail is desired, a fee of \$1.00 should accompany the questions. Address all communications to Veterinary Department, The Live Stock and Dairy Journal, Sacramento, Cal.

The Live Stock and Dairy Journal—I have a half mustang and half Shire mare. I want a good all-round farm horse. There is a coach horse, also a Shire, at stud in this district. Which should I breed the mare to?

B. E. R., Kings County, Cal.

The Shire horse should be the best one to breed to. You already have half Shire blood, and you still need more bone and size. Breed to the Shire and you will then have a three-quarter blood colt. If you breed to the coach horse, the chances are that you will get only an express horse.

The Live Stock and Dairy Journal—I have two mule colts and they knuckle over at the fetlocks. What will I do with them?

M. D., Colusa County, Cal.

The best remedy is to have the tendons on the back of the legs cut by a veterinarian, and they will be cured and stay well. The operation is a successful one, with practically no bad results.

The Live Stock and Dairy Journal—My hogs have been dying lately and I have a few every few days. What is the best thing to give them? They run at the eyes, cough, and wobble behind. They are sick about a week and then die. I have been giving them lye and ashes.

B. H. T.

The symptoms point to hog cholera. Have them examined by a veterinarian, and have him vaccinate them with serum. Disinfect the pens with sheep dip or any good disinfectant that can be had. Burn or bury your dead hogs.

The Live Stock and Dairy Journal—I have a colt with a swelling of the cords after castration. This swelling is steadily growing and discharging matter. The colt was altered about three months ago. What is the swelling and how will I cure it? The castration was done by a neighbor who is said to have good luck in altering colts.

G. M., Nevada.

Your colt is developing champion of the cord and is in a dangerous condition. You should have had a graduate veterinarian do this work, if one is near you, for with proper care this condition should not have developed. Call in a veterinarian and he will cut out the growth and treat with antiseptics. This should be done at once or it may mean the loss of the colt.

GLANDERS VACCINE NOT SATISFACTORY
Department of Agriculture Advises Killing of Infected Horses and Safeguarding the Well Horses From Infection as the Better Method.

That glanders vaccine is not effective in rendering horses immune from this dangerous disease is the conclusion reached by specialists of the Bureau of Animal Industry, U. S. Department of Agriculture, as a result of extensive experiments with horses and other animals. The experiments show that while mallein is highly effective as a means to discover the presence of glanders in a horse, neither mallein nor glanders vaccine has shown any positive value in curing

In the experiments 17 horses were used. These were stabled under such conditions that vaccinated and unvaccinated horses could be brought into contact with a good discharging case of glanders. Mallein and eye tests were used carefully to determine the results. The investigators report the following conclusions which appear in

a professional paper published by the Department entitled "Immunization Tests with Glanders Vaccine":

The results obtained by these investigations appear to be sufficient to demonstrate the unsatisfactory results of this method of immunization. Of the 13 immunized animals, 9 contracted the disease from natural exposure, which is a large proportion when it is considered that all animals were aged and kept most of the time during exposure out of doors. Of the 4 remaining immunized horses, 1 died of impaction after the second vaccination, while the other 3 animals were killed August 20, 1913, in order to ascertain by post mortem examination the possibility of glanders existing in these animals which had given positive serum reaction, but which had returned to normal. In artificial infections of the vaccinated animals they showed no resistance whatsoever, as both vaccinated horses promptly developed an acute form of the disease from touching the Schneiderian membrane with a platinum loop which had been touched to a growth of glanders bacilli. For the present, therefore, it seems advisable to abstain from immunizing horses by this method, as a practice of this kind may do more harm than good. Owners having horses which are supposedly immunized would naturally become careless, thinking their animals were

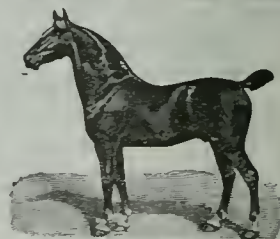
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THE CUTTER LABORATORY, Berkeley, California.

resistant to the disease, and thus even a latter opportunity would be offered for the propagation of the disease than if the horses were not vaccinated. Furthermore, the fact that the blood of vaccinated animals can not be utilized for serum tests for two or three months after the injections is also a great disadvantage in the eradication of the disease.

As a result of this preliminary work it appears that the control and eradication of glanders must still be dependent upon the concentration of our efforts in eliminating infected horses and the adoption of proper precautions against the introduction of infected animals into stables free from the disease. The results achieved in Germany, Austria, and Canada by these methods have proved very encouraging, and no doubt if executed in the same spirit in this country a marked reduction in the cases of glanders would result.

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THE HORSE

Head of Great Drayage Firm Speaks of Draft Horse Requirements in California

(Address by Mr. James McNab of San Francisco at the Meeting of the Draft Horse Breeders, University Farm, Davis, May 16, 1914.)

Of late years I am constantly being asked the question as to how long we will continue using horses, the general impression being that the Motor Truck has already put the horses out of business, but from all that I can see at the present time, the motor truck, while it is a convenience and great help in doing particular lines of work, will never allow us to dispense with the use of horses.

In special work where long distance or a heavy grade cuts a figure the motor truck has advantages over horse-power, but in the ordinary run of work pertaining to the trucking business conducted in the commercial way which is generally hauling heavy freight between railroad depots and wharves, stores and warehouses, the motor vehicle has never been a success along side of the horse drawn vehicle, and we look to a continued need for an extended use of horses in our business.

For the particular kind of city work in which I am engaged and which calls for the largest and heaviest type of draft animals and is a class of business that always has been able to afford to pay the highest price for draft horses, the horse will always be a necessity, and of late years the trouble with us has been to secure in California horses of the size, bone, conformation and general type of draft animal in numbers sufficient for our needs.

In recent years for the use of our own firm we have had to import from Illinois and Iowa carloads at different times. A recent importation this present season brought us, I think, about the best looking lot of draft horses I have ever seen in any country. The only improvement that we could have asked for could have been additional weight.

Now it is a common saying among horsemen on the farms that a 1400- or a 1500-lb. horse is big enough for anybody and that the bigger they get after those weights the poorer the quality. If this is the case the fault lies with the kind of horses that are being bred. A good big horse should be just as good as a good little horse, provided he is an animal of a breed suitable for the work that he is intended for. Breed for the big horse, you will always get plenty of small ones.

In many cities in the United States and the principal commercial cities in Europe, there are annual shows of work-horses and work-horse parades in which prizes are generally given to the owners and drivers of the best animals.

We had one such parade in San Francisco in which we showed a team of 96 horses, but further parades were abandoned on account of the Labor Unions.

I attended a few years ago in London the cart-horse parade, the judging stand being in Regent Park. The display of horses and the condition in which they were shown was most interesting to anyone who is interested in work-horses. Several of the horses there weighed 24 cwt., this figuring in our weights about 2700 lbs. This weight, however, was only attained by horses 10 to 12 years of age, and carrying a great deal of flesh.

In talking it over with some friends I was very much surprised to learn from them that they did not consider the English bred horse to be the

largest in the world, but that they considered the Flemish or Flanders horse, generally known to us here as the Belgian stock, to be the largest bred in Europe, so on a subsequent opportunity I visited Antwerp, my main purpose being to look over the draft stock in use there. On the wharves in Antwerp they use a splendid all-round lot of horses, although I must say they do not impress me as averaging any heavier in weight than those shown in London, but, however, I think they run more uniform, and had the general characteristics of bone and conformation of the stock known to us here as the Belgian horse, while those shown in London and also used in Liverpool and Glasgow all had the general type of what we know here as the Shire horse.

I could see no distinction between the better bred Clydesdale horse in Scotland and the Shire horse in England. The breeders in both countries have tried for the same result, size and bone, but I think that the English breeders turn out as a rule a smoother and more active animal than the average Clydesdale breeders do.

In watching the judging of draft stallions at the Highland Agricultural Show in Stirling, Scotland, a few years ago, I noticed the award of the Blue Ribbon to a brown horse with a bald face and a white, or as we call it glass, eye, and four white legs. I mentioned to a friend, one of the judges, that the animal would have little value in our country as no one would breed to a horse marked as this animal was. In the rules, color, he said carried no percentage in judging a work-horse, size, bone, conformation and action being the only points.

The difference in the breeds at this time in my opinion is more in the individual animals than in great distinction in the breeding. You can not have a good specimen of a draft horse, no matter how much he may weigh unless the bone, coupling and girth is in proportion to the size of the animal. It may be interesting to the gathering here for me to say a few words in a crude way regarding the history of the draft horse in California at this time:

Would say that the first start in breeding any draft horses in California came with the advent of the Pioneers who came across the plain, bringing with them from the Eastern States numbers of good horses and mares such as were bred in the United States at that time. Many of those immigrants arriving at Sacramento would dispose of those horses and mares at the first opportunity. Quite a number of them were in use in San Francisco, and the ranchers of the Livermore and Sonoma Valleys and Santa Clara Valley secured in this way a number of good mares.

I think at about 1861 Messrs. Johnson, Dougherty and Martin, ranchers in Livermore Valley, imported a number of Clydesdale horses from Scotland. At about the same time Mr. Hood of the Guillicus' ranch of Sonoma County imported a horse (known as England's Glory), the horse generally being understood to be a Clydesdale. William Bihler of Lakeville also imported a horse of the same type about the same time, and Mr. Blake of the Santa Clara Valley imported an English Shire horse, also.

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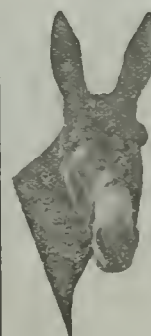
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the first breeding with American mares gave a wonderful horse, and by 1866 there was quite a number of half-bred colts from those importations scattered over several sections of the State.

The cross in breeding between the American mares and those imported horses turned out draft horses just about as good as we have at the present time, though not as large.

In 1867 there was imported to Petaluma a horse from Lanark Shire, Scotland, named Baron Pollock.

To show you that horse breeding has not improved as much as many of us think it should in the past 25 years, I will mention that in the description of the horse, Baron Pollock, it was stated that his dam was a mare that weighed over 2800 lbs, and I think all of you will know that it would be pretty hard to find a mare of that weight in this country today.

As soon as the colts from this stock

were big enough they were supposed to be old enough and were put in general use in San Francisco. Many of them too young. The bigger the horse is, the longer he takes to mature and for our use we do not put a horse down to his hardest work until he is 6 or 7 years old. Those colts being big and apparently fit at 3 and 4 years of age were at once put to work upon the streets of San Francisco and being immature did not give good satisfaction.

The horse England's Glory was a very flat-footed horse and his colts all showed this defect to a marked degree. Consequently there arose a great prejudice against the Clydesdale stock of horse on account of supposedly poor feet. This, however, was most noticeable in the horses from Sonoma County, those originating from the Blake stock in Santa Clara Valley and the Johnson and Dougherty stock not having this objection. The con-

tinued breeding of this stock seemed to develop a very coarse, hairy undesirable animal, so a number of farmers in Sonoma County brought from Mr. Dunham, the importer, the winner of the grand prize at the Centennial Exposition, the Duc de Chartres, a magnificent specimen of the gray, heavy boned type of Norman horse. Crossed with the mares of such a stock, as I have spoken of in Sonoma County, the result was probably as fine specimens of draft work-horse type as we have ever been able to get.

The wonderful success of this horse in breeding led at once to a great importation of Norman and Percheron horses. The result for some time was very successful, but upon the continuous breeding and carelessness in the selection of a number of the horses imported, the horses began to lose the bone, and while the colts developed into horses of all the weight required there was a defect in the lightness of bone in the limbs that made many of them useless for city work in a short time.

Seasons of low prices and short feed discouraged many horse breeders about this time, and for a number of years horse dealers were stocked with magnificent mares sold to us for city work because the owners did not care to breed under the conditions, and with very few exceptions the interest in breeding draft horses seemed to stop, although the Kern Land Company at Bakersfield, under the direction of Mr. J. B. Haggin, did continue breeding large draft horses in an extensive way.

Unfortunately, however, while Haggin bred very splendid stock, he raised horses upon irrigated land and at that time, alfalfa feeding was not as well understood as it is now, the stock was allowed to stand for days in alfalfa fields flooded in several inches of water and the stock he raised did not have feet that would carry them upon a city street, and they did not continue to breed upon the same extensive scale that had been originally contemplated.

For many years the Patterson Ranch in Stanislaus County on the west side, maintained a splendid lot of breeding stock, descended from some horses imported by Mr. Patterson from Belgium about 35 years ago. In the output from this ranch we were able every year to secure a number of their choice animals, and when the band was closed out after the death of Mr. Patterson, we took over all of the growing colts from two to four years old. I think there was about 90 head, and we only threw out 12 as being unsuitable.

Am very glad to see of late years an evident desire on the part of the farmers to return to raising good draft stock. There have been many importations of first-class stallions and a little attention should restore the breeding of work horses to the place that it once occupied in California. A good draft horse is always salable at good prices, but you must never forget that a draft colt is a big, soft boned helpless animal when young and cannot stand the hardship and grief of the small type of horse and it is absolutely necessary that a draft colt should have plenty to eat the first two winters of his growth. It doesn't have to be expensive feed, if they can run to a straw stack they will make out on it, but if stunted at that age, you can never get it back again.

I have often wondered, that in the interest that is taken both for pleasure and profit by so many of our people in stock raising and in farming that so few have taken up with a decided interest the raising of first-class draft stock.

Numbers of our people have in the years past devoted their attention to the breeding of fine trotters, others again, particularly of our citizens of

wealth, have devoted themselves to raising thoroughbreds.

Now the raising of trotting stock or thoroughbred stock involves the keeping in employment numbers of trainers, jockeys and stable help. Many of the men of the class employed in this way are not desirable around a farm, and the expense in breaking, training and preparing for market is always heavy.

Now you take the case of a well-bred draft animal. All the animal needs is plenty to eat while growing and any ranch hand can put a halter on him when grown and with an hour's effort he can be put to work and be a faithful help and a servant from that time on.

It seems to me that the raising of this class of stock should appeal to everyone who has the facilities and I confidently hope that the result of this meeting today may lead to an added interest in the raising of this class of stock in California.

COMMISSION REPORTS THAT IT COSTS 55 CENTS A BUSHEL TO RAISE WHEAT IN SASKATCHEWAN.

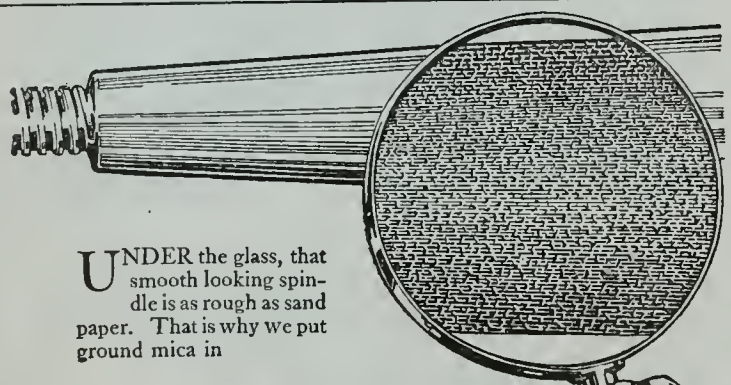
Possible Explanation of Fact That Large Number of American Farmers are Seeking Return Certificates.

American wheat growers and farmers will be interested in a report of a Commission appointed by the Government of Saskatchewan "to examine into the ways and means for bettering the position of Saskatchewan grain in the European markets." Incident to this investigation the Commission looked into the cost of producing wheat under present conditions in that province of Canada. The wheat producers of various sections of the United States will be interested to know that under present conditions the cost of producing wheat as determined by the Commission is reported to be 55 cents per bushel on the farm and 62 cents per bushel f. o. b. cars at country points. According to the report, the cost of production has increased 12.15 per cent since 1909, while, on the other hand, the price of wheat to the Saskatchewan farmer has decreased from 81 1-5 cents per bushel in 1909 to 66 1-8 cents per bushel in 1913, leaving a net return, on this basis, of 4 1-8 cents per bushel to the farmer.

It is possible that the interesting figures which have been developed by the Grain Commission will account for the fact that a large number of American farmers who have, in recent years, left the States to engage in farming in this territory are now asking for a certificate which permits the return of household effects to the United States. If the economic situation suggested in the above statement is not the cause, perhaps it may be found in the long and rigorous winters characteristic of this section as compared with those in the leading farming districts of the States.

CALIFORNIA DRAFT HORSE BREEDERS ORGANIZE

California Draft Horse Breeders' Association became a reality at the meeting at State Farm, Davis. Henry Wheatley was elected president, Wm. Bond vice-president, and J. I. Thompson secretary-treasurer. The dues were fixed at \$5.00 per year. There were a fair number of horse owners present, and the young organization starts out with very good prospects. Its future usefulness depends almost entirely upon how many horsemen in the State will come forward and become members. This association should have a membership of at least two thousand, and that is counting in only a fair percentage of the men who are vitally interested in the breeding and sale of draft horses in California.



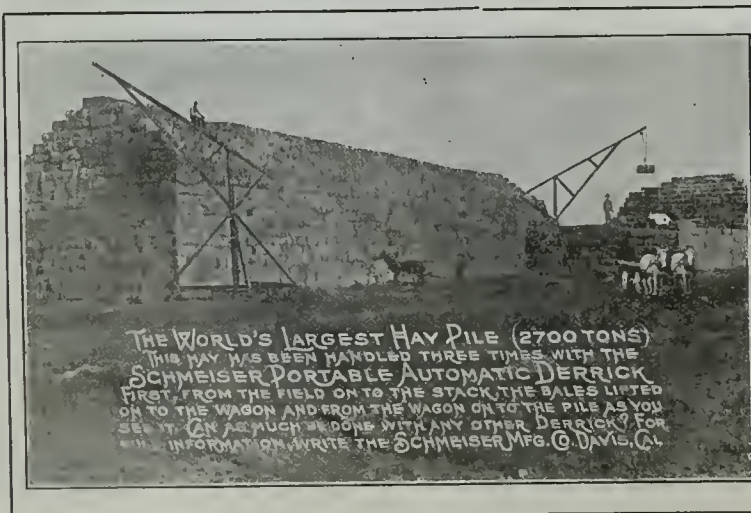
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SHEEP

Angora Goat Raising Profitable in America

The raising of Angora goats in the United States is now a demonstrated success according to a report just published by the United States Department of Agriculture under the title, "The Angora Goat," Farmers Bulletin 573. The industry, says the bulletin, is indeed so well established here that growers need not be inconvenienced by the action of South Africa in prohibiting the exportation of Angoras, for the quantity of good blood in this country is already sufficient to meet all requirements. In the opinion of experts the best American fleeces now equal any grown in South Africa or Asia Minor, the original home of the Angora.

Although nearly every State in the Union now possesses its flocks, the Southwest and the Northwest are especially well adapted to the industry, in particular the large areas recently logged off in the Northwest. There the Angora not only thrives himself but helps to clear away the brush which if allowed to grow unchecked, might easily become a dangerous fire trap. Thus it is often said that the Angora works and pays for its board at the same time.

It is paying more and more, for the value of the fleece or mohair is increasing steadily. Formerly the use of mohair depended so largely upon the prevailing fashion that its price varied widely from year to year. This condition, however, is rapidly changing as new uses for mohair are continually found, from automobile tops and table covers to dress goods and curled false hair, and today the grower is assured of a reasonably steady market. The price of course varies with the quality, the very best fleeces bringing on an average from 42 to 55 cents a pound. The weight of a fleece has a very wide range but in 1909 the average for Oregon was found to be 3.7 pounds and for Texas 1.85. On account of the greater heat, however, and the damage of shedding, Angoras in the Southwest are frequently shorn twice a year—a fact which must be taken into consideration in all calculations.

This practice of clipping twice a year is in many ways a drawback to the industry since it tends to lower the average grade of American mohair. Mohair as good as any can be and is grown in this country, but the average quality is not today considered to be as good as the foreign. About 2,000,000 pounds are annually imported. Ordinarily this is blended and spun with the domestic product. Six inches is the shortest length of fleece usually desired and, because of shearing twice a year, much Texas and New Mexico mohair falls below this standard. Where the fleece is allowed to grow for twelve months, the average length is 10 inches and in the best flocks it is not unusual to get 15 to 20 inches. Romeo, the sweepstakes buck at the El Paso show in 1910, is an example of what is possible. His fleece weighed 18 pounds, measured 20 3/4 inches in length and sold for \$115. Such fleece is not of course the product of ordinary commercial conditions. It implies a considerable amount of care and personal attention.

The birth rate is approximately 65 per cent but in well managed flocks this has risen on occasions as high as 120 per cent. Since the kids are not hardy, it is obvious that this means skill and industry during the breeding season. The best methods of caring for the flock at this time

are discussed in some detail in the new bulletin. Otherwise the management of Angoras does not differ greatly from that of sheep.

While the Angora goat needs attention it is adaptable and as far as temperature is concerned should flourish in any part of the United States. In Montana the flocks face the heavy snowfalls with equanimity as long as a dry place is provided for them at night and though the heat in the Southwest frequently makes it necessary to shear twice a year in order to prevent shedding it does not otherwise affect the health of the flocks. Dampness, however, is more injurious than either cold or heat. High land is the native home of all the goats and they invariably seek it when left to themselves. Pure water is also an essential.

Otherwise the Angora is not particular. It will feed with cattle and sheep, and, though in some danger of being kicked, with horses, also. As a matter of fact, however, the goat prefers a certain amount of rough pasture and is particularly happy when clearing up brush land. There is one instance of a flock of 600 being allowed free grazing in a California forest reserve in order to keep the strips of cleared land, known as fire breaks, free from weeds and vegetation. Settlers in the Northwest find the Angora most serviceable in browsing off the brush on their new lands, the one interurban railway company purchased a flock to keep its right of way clear and attractive. On very rough land the danger of injury to the fleece must, however, be kept in mind.

As has already been said, the Angora can be bred sufficiently pure for practical purposes from the stock already in this country and there is no need of further importations for breeding purposes. Some years ago, however, this was not believed to be the case and in 1881 the Sultan of Turkey endeavored to preserve for his dominions the monopoly of the mohair trade by prohibiting the exportation of the live animal. His example was followed by South Africa, but it was too late. Some of the best blood was already in America and today other countries are buying of us, flocks having been shipped recently to Brazil and the Argentine.

Various associations have already been formed for the development of the industry in this country and the quantity of the annual product is increasing rapidly. In 1913 it is estimated that 5,000,000 pounds of mohair were grown in the United States. Fuller details of the management and care of flocks are to be found in Farmers Bulletin 573, "The Angora Goat," which will be sent free on application to the Department of Agriculture.

AMERICAN WOOL NEEDS BETTER HANDLING.

A preliminary report of the investigation into the methods of marketing American wool, now being conducted by the department, indicates that from 10 to 20 per cent of the value of the crop is lost annually through the neglect of a few simple measures. Under existing conditions, when American and Australian wools lay side by side in the warehouse, the poor handling of American wools is so noticeable that the price is inevitably affected. This handicap would be removed to a great extent if all growers would agree to do four things:

Sack ewe, lamb, and buck fleeces in separate sacks.

Shear black sheep separately and keep the fleeces separate.

Tie the fleeces with paper twine, which does not adhere to the wool.

Remove the tags or dung locks and put them in separate sacks marked to show their contents.

Figures prepared by the Bureau of Statistics (Agricultural Forecasts) and based on reports from 383 growers who sheared in 1913 a total of 2,269,005 sheep show that at the present time about one-half of the flock owners sack ewe, lamb, and buck wool separately, about 60 per cent separate the black fleeces and tie with paper twine, and less than one-half put tags in separate sacks. It is pointed out, however, that the correspondents who took the trouble to answer the inquiries of the investigators, and from whose replies these statistics are compiled, presumably represent the more progressive element in the industry, and that if it were possible to obtain the facts from every woolgrower in the country the percentage of those using the improved methods would be found to be much lower.

It is pointed out also that although, on the face of them, these returns do not seem so unsatisfactory, the value of wools produced in a given locality is set by the general reputation already established. Buyers will not alter their prices for small individual clips though they may be better handled than the average, and in consequence those who do put up their wool properly are made to suffer for the sins of their neighbors.

Buying concerns can and may, however, allow their representatives more

latitude in discriminating between individual clips. But even should they do so, prices could be altered only for clips of sufficient size to yield around 10,000 pounds of each grade contained.

Fifty-nine cases were reported in which dockage for tags was made upon the whole clip, although the tags had been separately sacked.

The remedy, the investigators declare, is to raise the reputation of a locality by an agreement among the growers not to permit any poorly handled wool to leave the community.

It can not be said that the growers who follow the practice advocated by the market at present receive much, if any, compensation for so doing. As in other lines, it rests with such progressive individuals to bring their communities up to a common standard that will be of benefit to all.

In the opinion of the investigators the reforms already mentioned would be sufficient for the present to put American wool in a different light. Later it may be advisable to adopt the Australian methods of "skirting" or removing from the fleece the wool of the legs and belly, and grading before sacking, but this is not urged now.

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BEEF CATTLE

CERTIFICATED BREEDING ANIMALS IMPORTED IN 1913.

The Bureau of Animal Industry has issued a list of animals imported for breeding purposes in 1913 for which certificates of pure breeding have been issued by the Federal department. This list includes the names of animals, their registration number, the name of the importer, and the department number for the various breeds.

The following table shows the number of certificated cattle imported for breeding purposes during 1913:

Breed	Bulls	Cows	Total
Aberdeen-Angus	4	.....	4
Alderney	2	98	100
Ayrshire	22	183	186
Galloway	11	2	13
Guernsey	40	738	778
Hereford	35	33	68
Holstein-Friesian	10	16	26
Jersey	35	608	643
Shorthorn	84	122	206

Total244 1,780 2,024

This list can be obtained on application to the Bureau of Animal Industry.

LIVESTOCK INCREASES ON NATIONAL FORESTS

Figures showing the number of livestock for which the secretary of agriculture has authorized grazing permits for the ranges on the 160 national forests during the year 1914 have just been made public. Nearly 11 million animals can be grazed, including nearly 2 million head of cattle and horses, nearly 9 million head of sheep and goats, and about 65 thousand hogs. This means an increase for the current

year of about 38 thousand more cattle and horses, and 347 thousand sheep and goats, although the gross area of the national forests at the beginning of 1914 is almost a million acres less than at the beginning of 1913.

During 1913, according to the reports just compiled, more than 27 thousand stockmen paid the government for grazing permits on the national forests.

For several years past the carrying capacity of the national forest ranges has been slowly rising, which, forest officers say, indicates an improvement in general grazing conditions and a better utilization of the forage resources. They claim that this is due mainly to the enforcement of better methods of distributing and handling stock.

On the lands recently acquired by the federal government within the Appalachian region of the east, regulated grazing has been undertaken this year on six distinct areas. The local stock owners who had previously used the land under lease from the former owners have readily accepted the change of ownership and appear to be favorably impressed with the methods employed by the forest service for grazing purposes. While the number of all animals authorized to graze upon these southern Appalachian forests is not large, it is the belief of the forest officers in charge of them that under careful supervision the lands will support more stock than they have in the past and that there will be considerable improvement in the individual animals, with a constant increase in meat production.

In another column is an announcement of the sale at auction of the Ginn herd of grade Holsteins at Corcoran, Cal. Carl Ginn is going to confine the breeding operations on his farm to registered Holstein-Friesians, with which he has already made something of a start. The Ginn dairy herd is a good one and there will be some very desirable grade cows offered in this sale. Mr. Ginn will be a welcome addition to the Holstein ranks of the State, now that his attention is to be given up entirely to purebreds.

J. L. Gish, owner of Model herd of registered Berkshires, Laws, Cal., reports the sale of the sows Princess Model 4th, Model's Pride, and Gish's Nora with pigs, to Mr. Claussen of Inyo County; Model's Pride G to Walter Young, Inyo County; Pride's Last and three unweaned pigs to John F. Pearson, Inyo County.

Live Stock and Dairy Journal—I have a five-year-old buckskin mare, weighing about 1100 pounds. She is blindfolded, eats rocks and wood, has broken some teeth, and is getting poor fast on good green feed. What can I do for her?—W. S., Tehama, Cal.

Your mare has a disease called Pica. The cause is unknown but is supposed to be due to a lack of some of the body salts. Give her water to drink to which has been added one-half tablespoonful of lime to the bucket of water, once a day. Feed grain and nutritious food. Give artificial Carlshad salts, one tablespoonful three times daily in the grain feed. 1½ grains Apomorphine in one ounce of distilled water might be injected subcutaneously twice daily. However, try the salts first. If there is great emaciation already present the mare is incurable.

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GOVERNORS ASKED TO TAKE FIRST STEP TO PUT SMITH- LEVER AGRICULTURAL EX- TENSION LAW INTO EFFECT.

The Secretary of Agriculture has written to the Governors of all the States asking that they designate the college or colleges to which the funds provided by the Smith-Lever cooperative agricultural extension law are to go. This is the first step in putting into effect this Act approved by the President May 8, which provides for the granting of Federal Funds to the State Agricultural colleges to aid in diffusing among the people useful and practical information on subjects relating to agriculture and home economics, and to encourage the application of the same.

The conditions of the Act are that each state must duplicate the money above \$10,000 a year appropriated to it by the Federal Government. The money raised by the State may come from the State, county, college, local authority, or individual contributions from within the State, for the maintenance of co-operative agricultural extension work. The Governor of each State, in the interval until the Legislature meets, is called upon to designate the agricultural college or colleges to which the Federal funds are to be paid.

The act provides that each State in which an agricultural college is designated shall receive as a basic fund from the Federal Government \$10,000 annually without additional appropriation from the State. The Act then makes the provision for additional appropriations to be distributed in the proportion which the rural population of each State bears to the total rural population of all the States, as determined by the next preceding census. To share in these additional funds, however, the State, either through State, county, college, or local funds, or from individual contributions from within the State must duplicate the additional amounts granted by the Federal Government for the maintenance of the co-operative agricultural extension work provided for in this Act.

The Federal money to which each

State becomes entitled will be paid in equal semiannual payments on the first day of July and January of each year.

The additional appropriations provided for in the Act are as follows: \$600,000 for the fiscal year following that which the basic appropriation first becomes available. This \$600,000 will then be increased by \$500,000 for each succeeding year thereafter for seven years until the total additional sum appropriated is \$4,100,000 annually. This sum and the annual basic appropriation of \$480,000 will then be available each year thereafter.

The Act, after providing that pending the inauguration of the new work the farm management and farmers' co-operative demonstration work shall not be discontinued, defines the uses to which the Federal moneys shall be put as follows:

"That co-operative agricultural extension work shall consist of the giving of instruction and practical demonstrations in agriculture and home economics to persons not attending or resident in said colleges in the several communities, and imparting to such persons information on said subjects through field demonstration, publications, and otherwise; and this work shall be carried on in such a manner as may be mutually agreed upon by the Secretary of Agriculture and the State agricultural college or colleges receiving the benefits of this Act."

The Act provides that no appropriation of Federal money shall be applied directly or indirectly to the purchase, erection, preservation, or repair of any building or buildings, or the purchase or rental of land, or in college-course teaching, lectures in colleges, promoting agricultural trains, or any other purpose not specified in this Act.

Not more than five per cent of each annual appropriation may be applied to the printing and distribution of publications, which means that ninety-five per cent of the appropriation must be devoted to the giving of instruction and practical demonstrations to persons not attending the colleges.

The Act also provides that where any of the Federal money so granted to a State shall be diminished or lost or be misapplied, the State, until it so replaces the money, cannot receive further Federal appropriations.

Oaklawn Farm

A MIGHTY FACTOR IN THE DEVELOPMENT OF THE PERCHERON HORSE IN AMERICA.

About one hour's ride west from Chicago by steam or fast electric train is a farm whose history for the past forty-five years is synonymous with about all the history and traditions of the Percheron horse in America. Oaklawn Farm comprises a large acreage of very fertile land in the beautiful valley of the Fox River, a few miles below Elgin, Illinois, and represents the most notable example of high achievement and continued success in importing and breeding draft horses to be found in the United States.

Aside from the interest attaching to a great commercial horse importing establishment, Oaklawn Farm possesses a rich fund of romantic history which reads like chapters from one of the "Leather Stocking" stories of James Fenimore Cooper. Early in 1835 Solomon Dunham, with his wife and their children, left Cattaraugus County, N. Y., and arrived in Chicago on March 24th. They traveled the entire distance by wagon. Chicago at this time was a village of about three thousand inhabitants, and was not incorporated as a city until two years later. Mr. Dunham rented a small cabin in Randolph

Street and, leaving his family there, proceeded with his team further west in search of a suitable location on which to settle. At that time the lands of Du Page County had not been surveyed, and settlers merely plowed a furrow around such land as they desired, and in the timber "blazed" their boundaries. The next essential was to build a cabin and then proceed to protect their "squatter rights." Mr. Dunham soon found a tract of land that suited him, and returned to Chicago for his family, paid the rent for the cabin (\$1.25 for the ten days the family had occupied it), and proceeded to the new home. The first white settler had preceded him into Du Page County by only two years. It was not until about 1843 that this land was surveyed and offered for sale. In 1840 Mr. Dunham determined to build a larger and better house, and with that object in view opened up a "clay bank" and made several thousand brick with the help of a son, and these were burned in a small kiln. These bricks were moulded, one at a time in a hand mould. It is needless



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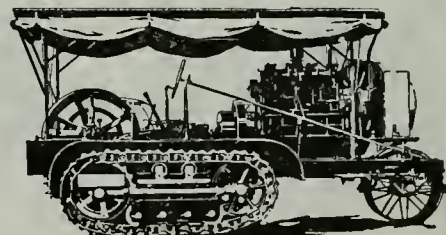
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to say that this was a very slow process, but with these bricks he built what was considered at that time a rather pretentious house. This house is still standing and forms the central portion of what is now the farm house and office of the great importing and breeding farm of Dunham's at Wayne, Illinois.

In building this house Mr. Dunham had used about all of his available cash, so that, when the land was surveyed about this time, he had not the \$500 with which to pay the Government for the four hundred acres on which he had squatted. In those days there were no banks to which one could go and secure a loan, and it required some hustling on the part of Mr. Dunham to raise the required amount of cash to give him a clear title to the four hundred acres—the nucleus of the present great farm. Grandfather Dunham imparted his hustling qualities to his son, the late Mark W. Dunham, and he in turn to his son, W. S. Dunham, the present owner. The acreage has been increased from time to time until now it represents a total of two thousand acres, worth upwards of \$250 per acre as agricultural land. The name of the farm was selected by its original owner, and is most appropriate, as the immense lawn surrounding the original homestead is dotted with magnificent live oaks, many of which are four feet in diameter.

Since the growth of Oaklawn Farm is so intimately associated with and is, in fact, a basic part of the history of the draft horse business in the United States, a description of the manner in which the business is conducted by the Dunhams is not without interest.

The first importation of Percherons (or Normans as they were then called) direct to Illinois was in 1868. This importation consisted of two stallions, "Success" and "French Emperor." Shortly after their arrival in Iroquois County, Illinois, these two stallions were purchased by a company of farmers near Wayne at a cost of \$6000. The purchase was made solely with a view of producing a better class of horses for their own use. Mr. Mark W. Dunham was a member of this company, which was perhaps the first company of its kind in existence. The plan, as well as the horses, proved a

success, and for several years the members of the company were enabled to breed their mares to two as good imported stallions as were to be found on the continent, and at about the same price as was charged for service to the common scrub stallions of the country, and after allowing the members 10 per cent interest on their investment. After using these stallions for a number of years the need of other stallions to cross upon their colts began to be felt, and the company decided to offer the two stallions at auction.

I have before me a copy of a catalogue of about fifty pages, issued in 1877 by M. W. Dunham, and his notes on the stallion "Success" are of unusual interest in that they give us a very good basis for comparing the best type of the Percheron of forty-five years ago with the massive type of today. I quote verbatim from his old catalogue, which is thought to be the only copy in existence today:

"I determined that animals with which I had been so successful and to which I was so largely indebted for my reputation as a breeder should not leave my stable. Though sharply contested I secured "Success" at a much larger price than his original cost. (This was after "Success" had been used eight years as a "company" horse.) He at once took the place at the head of my stud that he now occupies—a position that his incomparable breeding qualities eminently entitle him to fill, and which he has successfully held during the past year against nearly half a hundred imported rivals, the flowers of the best stud stables of France, many, very many of them larger, finer and more perfect animals than himself. But those broad, flat quarters, deep massive shoulders; that nicely rounded body; those clean, flat, powerfully muscled legs; that beautiful head and lofty crest from which falls that mass of silky mane reaching to the knee; that spirit and mildness of temper, could not be forgotten. The unerring certainty with which he transmitted those qualities to his progeny has earned for him a place in popular favor which no untried horse, of however fine form, powerful build or general perfection can dispossess him of.

"'Success' is now 13 years old; sixteen hands high; weighs 1700 pounds; in color nearly white; is vigorous and hardy and a very easy keeper; combines to an extraordinary degree of perfection large size, compactness and symmetry of form, with an elegance and attractiveness in general appearance and movement seldom found in one animal. He was the first Percheron stallion ever imported directly from France to the state of Illinois; and the impress made by him and his get, some of which are owned in almost every state from the Rocky Mountains to the Hudson River, has contributed largely to the popularity of the breed in this country. His success in the stud has been most remarkable, and probably has never been equaled by any stallion in America upon the same quality of mares, some of which weighed less than 800 pounds. His get are uniformly large sized, compactly built, clean limbed, stylish and active, whether bred from large or small mares. Their value, as demonstrated by the actual sales made, will be seen by the following summary: The average age of all colts of his get ever sold is about 2 years and 8 months; the average price, \$450; and during the year 1874 thirty-six thousand dollars' worth of his get were sold.

"He has well earned the place he here occupies as head of my stud. I owe him much for the firm establishment of my faith in the superiority of the French race over all others as a cross upon our native mares, by which I have been encouraged in breeding and importing them until I have arrived at my present status."

Be it remembered that the above was written but five years after the establishment of draft horse importing as a commercial business. Forty-one years ago (1872) M. W. Dunham made that epoch-making importation of seven stallions which marked the beginning of the purebred draft horse business on a commercial scale in the United States. Not only was Oaklawn Farm the first in the business, but the records of the big fairs and expositions of the country bear witness to the quality of the stock the farm has imported and bred during its long history of contests and conquests in the show ring. Oaklawn

Farm has sold more than nine thousand purebred draft horses, more than seven thousand of which were stallions. One can scarcely comprehend the magnitude of the impress upon the horse stock of the country the dissemination of such a large number of high-class sires must mean. It is evident that the placing of quality above all other considerations is the keynote of the Dunhams' success. A business of such proportions could have been built up and maintained by no other method.

At the time of my visit to the farm (August 15th) there were on hand seventy-five stallions from 2 to 4 years old. This is about the average number kept at all times. From two to four importations are made each year, and usually from 150 to 200 stallions are brought over annually. Mr. W. S. Dunham, the present owner and active manager, follows the practice instituted by his father, and goes to France as often as necessary and personally selects his purchases. The stallions are held only for an average of about three or four months after arriving at the farm, and sales are made almost every day in the year.

Mention has been made of the old pioneer stallion "Success," but the horse to which Oaklawn Farm (and I may say the Percheron breed) owes most was the great "Brilliant." Mr. M. W. Dunham made a master stroke when in 1881 he bought Brilliant as a 5-year-old and imported him to Oaklawn Farm, and there used him in the stud until he died in 1893 at the age of 17 years. It is questionable if any sire of any breed has ever exerted such a potent influence for good, as did this best known of all draft stallions Brilliant. The noted Percheron "Pink," twice grand champion at the International Live Stock Exposition, was a stallion which lived and died at Oaklawn Farm.

A feature of this farm, which differs widely from most other importing establishments is the fact that each year a large number of colts are produced. It is likely that nowhere else in the world can there be seen such a grand collection of Percheron brood mares as one will find at Dunham's. Standing in the midst of an

(Continued on page 22)



BARNS AT OAKLAWN.



THE FARM WOMAN'S PAGE

CONDUCTED BY AUNT MARCEL

This department is conducted for the purpose of dealing in a helpful way with the many problems which are encountered by the woman on the farm. Household and home questions from our women readers are encouraged. Address all correspondence for this department to Aunt Marcel, The Live Stock and Dairy Journal, Sacramento, California.

THE FALL BABY'S LAYETTE.

There is no more pitiful sight commonly seen than a very young baby all frilled up in uncomfortable clothes to gratify his mother's vanity. Babies until they are at least six months old are not meant to be handled, admired or looked at and it is undoubtedly very uncomfortable if not worse for them to have to submit to it. They have tender, sensitive, little bodies that should be clothed only in the softest and warmest of materials of as light weight as possible. A baby that is being handled constantly cannot possibly be kept out of irritating drafts and as snugly warm as the one that is left in a comfortable crib or buggy. He will, therefore, require more clothing but if you want to give your baby the best start in life you will resist the temptation to handle him much yourself and you will not allow admiring relatives and friends to do so. You will also put just as few clothes on him as possible.

The baby's layette will, of course, depend largely upon the climate in which he is to live and the fall baby will need different clothes from the spring or summer baby. As it will be about the time to prepare the fall baby's outfit, now, we will consider that in this issue and leave the spring baby for a later date. If it is possible to do so cotton or linen shirts and bands are doubtless the wisest from the first, but while some babies will stand them others will not and a baby must be kept warm. That is absolutely essential to his health and comfort, but on the other hand to be kept too warm is not only just as uncomfortable but is positively dangerous as it is the very best way to let them contract pneumonia which some babies seem to be very prone to do upon slight occasion. Next to cotton is silk and I think that there are few babies that require anything warmer. Wool and cotton, if you cannot afford silk, is better than all wool which on account of its being so very irritating to sensitive skins, so closely woven, so prone to hold every particle of dampness and so difficult to keep soft in laundering is the least desirable of all fabrics to place next to the baby's skin.

For his feet knit wool booties coming up well over the knee are the best for the feet must be warm and they are more likely to be cold than any other part of his body. Cotton is positively too cold for a new baby's feet in the winter and wool stockings quickly shrink until they are too small and are very harsh even with the most careful handling. The short booties are not good for they leave an expanse of leg that is bound to be cold.

During the past few years pinning blankets are going out of favor, but for a baby under three months they are undoubtedly the most comfortable method for keeping the lower part of the body warm. The best material for them is flannelette or cotton flannel. They should be made very wide so that they will lap well around the body with little or no fullness and about thirty inches long. For day and night during the first three months a knit band, a shirt, a diaper, a pair of booties, a pinning blanket, and an outside slip of flannelette are all the baby should wear. For the outside slips of which you should have at least six, Viyella Flannel is very nice if you prefer it to flannelette. It is warmer (being all wool), is less bunglesome, and if washed properly keeps quite as soft, but it is much more expensive and is not really necessary, as flannelette will do for all practical purposes.

The Viyella is 75 cents a yard and it requires a yard and a half or more depending upon the length. The best flannelette is only 12½ cents a yard and is just as wide.

It is foolish to make many things for the baby to wear after he is to go into dresses, for many babies grow so fast that they cannot wear the dresses more than three or four months. A good list would be as follows: 3 hands, 3 undershirts, 3 dozen large double faced flannelette diapers, 3 dozen small bird's-eye diapers, 6 pair of long knit booties, 3 pinning blankets, 6 slips of flannelette 30 inches long, 1 nice dress of nainsook 24 inches long, 2 flannel skirts 23 inches long, 1 good muslin skirt 23 inches long, 2 plain slips made of fine white cotton crepe 24 inches long, 2 wrappers 27 inches long made of challie, 3 knitted sacks, 1 coat and cap. The

flannelette slips should be finished at the neck and sleeves with a hem and tape to draw them into place and should be perfectly plain. The plain white cotton crepe slips are made the same way. In buying the cotton crepe it is wisest to get a good quality for it is very soft and will never need to be ironed which is an item to mothers living in the country and doing their own work. You will, also, need at least 4 warm blankets knit or made of double faced elderdown to wrap the baby in when he is taken from the crib.

Put away the money you would like to spend on an elaborate outfit for the baby to have by and by. He will thank you then, but in his baby heart, if he could understand, he would thank you more now for not making him wear it.

water and the clamps are left on until the jars are thoroughly cold. Only one clamp to a jar must be used. Many people spoil fruit trying to use more. If you are using the screw top jars the lid is set on while the jar is being boiled and is screwed down after it is taken from the water.

The syrup is made by mixing the sugar and water in a pan and bringing it to a boil and removing it. Two quarts of water to one of sugar is a medium sweet syrup but the sweetness depends largely upon the tartness of the fruit and your own preference. It should be as hot as possible when it is poured into the jars.

The best article to boil the jars in is a wash boiler with a piece of wood set in the bottom to keep the bottom of the jars away from the fire. A medium size will hold a dozen to fifteen quart jars at a time.

CANNING FRUIT IN JARS.

I have found that the very best way to can peaches, pears or apricots is in the jars. To do this the new style of suction sealed tops is the best but it can be done with the screw top jars with a little more trouble.

The fruit is pared, halved and placed in the jars and the syrup poured in. The jars are then placed up to the neck in cold water, brought to a boil and boiled from twenty minutes to half an hour, depending upon the ripeness of the fruit. If you are using Economy jars the lids are clamped on before the jars are placed in the

RECIPES.

Steamed Brown Bread—1 cup of cornmeal, 1 cup of rye flour, 1 cup of graham flour, 1 cup of whole wheat flour, 1 teaspoon of salt, 1 teaspoon of soda, 2 cups of sour milk, 1 cup of New Orleans Molasses. Sift all the dry materials together twice and add the sour milk and last the molasses. Butter a double boiler and pour in. Boil three hours. Do not allow water to get down in the boiler and do not open the top to see if it is alright. It will be all right if the water boils. The top must fit tightly.



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Oaklawn Farm

(Continued from page 20)

Immense wooded bluegrass pasture, far back from the road, I found a large barn provided with extra large box stalls, scrupulously clean, deeply bedded with bright straw, the walls freshly whitewashed and the windows darkened. In each of these stalls was a mare and her colt. Great mares weighing 1900 to 2200 pounds each with foals weighing 100 or more pounds for each month of their existence. In hot weather and when flies are troublesome, the mares and foals are kept in darkened stalls throughout the daytime, and allowed the run of the pastures during the night and early morning.

On another part of the farm I found a beautiful band of yearling fillies, daughters of the priceless brood mares and sired by the pick of the imported stallions.

On still another part of the farm the yearling stallions are cared for, and the manner in which they are reared is so unique that a special description will be of interest. The diagram gives a very good idea of the manner in which the barns are located in relation to the paddocks, each of which contains two acres and is intended for the use of two colts. The fences enclosing these paddocks are seven and one-half feet in height, and are made of strong material. The barns are 30x30 feet, provided with ample lofts for hay and bedding. The partitions extend to the ceiling and are strongly built, but are latticed, which gives the colts an opportunity of seeing each other. The water trough is circular and fixed in the center of the barn so that occupants of the box stalls can reach it. These barns are planned for economy in handling the colts and at the same time afford a maximum of comfort for the animals either summer or winter. On cold nights the colts are confined each in his own comfortable box stall, at all times during the day, however, except in stormy weather, the box stall doors are fastened open in order to encourage the colts to exercise in a natural way in the paddocks.

It is a noteworthy fact that Dunhams make no discrimination in the price in favor of the home bred Percheron. Quality alone determines the price, and the home bred stallions sell as readily as an imported one. It is an inspiring sight to visit Oaklawn Farm in the early morning or late afternoon when the stallions are being led for exercise. In front of the main barns is a long stretch of level roadway, shaded with large trees, and this affords a splendid exercising ground. In cold or rainy weather the horses are shown and exercised in a conveniently located and well lighted building 300 feet long and 50 feet in width. None of the stallions are used in performing farm work, but such brood mares as are not suckling colts are asked to do their full share of hard labor.

Seven hundred acres of the farm is in permanent bluegrass pastures, much of which is nicely wooded. Bluegrass flourishes here as in Kentucky. About six hundred acres of small grains are raised annually—oats, rye and barley. This amount of grain supplies the necessary amount of straw for bedding, but does not afford the required amount of grain for the horses and large quantities of oats are bought each year. From three hundred and fifty to four hundred acres of corn is grown each year, and the balance of the farm is in meadow. About fifty acres of alfalfa is growing nicely, and

it will be grown more extensively hereafter.

Two years ago Mr. Dunham decided to embark in the dairy business, and to that end remodeled a large barn which had been built some years ago for horses, but which was found to be undesirable for that purpose. The barn was reconstructed in such a manner as to embody about every modern improvement for the economical production of sanitary milk. The ventilating arrangement received special consideration. Four reinforced concrete silos were built with a combined capacity of 1000 tons, and the business started with 100 purebred and grade Holstein cows. While this dairy was started as a sort of "side line," it has yielded a fine profit from the start, and it is now being enlarged to exactly double its former capacity. The milk is shipped to Elgin, where it is sold to a dealer supplying the Elgin city trade. The farm receives 30 cents per 100 pounds above the market price, which fact is a pretty good indication as to its quality. A number of valuable bulls are in service, and it is the intention of the management to replace the grade cows with purebred animals as fast as they can be bred on the farm. For forty years the farm has continually maintained a large amount of live stock. No grain or roughage has been sold, and much has been purchased and fed on the farm. The result has been vast quantities of manure applied to the fields so that for the past two decades the average yields from the fields has gradually increased, and this is what has made it possible to engage in the dairy business on a large scale without increasing the acreage or reducing the number of horses handled.

Each winter from 100 to 150 steers are fed for market. These steers are purchased, but the necessary number of hogs to follow them are bred on the farm. The manure is spread on the fields daily, both summer and winter. That from the horse barns contains a large percentage of straw, and this is usually spread on the meadow fields. Each spring these meadows are raked and cross-raked, and the large amount of straw thus secured is used a second time. The rains have washed this straw, and by this practice, which has been followed for many years, a great amount of money has been saved, as the item of bedding for the horses is a very important one.

Oaklawn Farm gives perennial employment to an average of forty-five men—not just ordinary farm laborers, but men of recognized ability as horsemen or as farmers. The wisdom in having only men of this sort about is at once apparent on a visit to the farm. There is no waste, no friction, no lost motions. The whole plant, from office to blacksmith shop and feed mill, from corn field to pasture lot, seems imbued with the single slogan, "system."

Oaklawn Farm, with its varied interests, is a machine finely adjusted and well oiled. It is the logical development from the pioneer grandfather's start in opening up a tract of virgin sod almost eighty years ago. Solomon Dunham died in 1865, but to his son M. W. Dunham he left a heritage of pioneer instincts which led him to embark in the importing business. In this business the son was more of a pioneer than his father was when he settled in Du Page County at a time when Indians were all too plentiful and aggressive.

M. W. Dunham died in 1899, and at that time his son, W. S. Dunham, was a student at Harvard. He, however, assumed the responsibilities of the business in a manner that left no doubt as to his qualifications, not only as a manager of a great importing business, but as a constructive breeder as well. His greatest pleasure is in the many fine animals to which he can point and say with evident pride, "Bred by Dunhams." H. T. MORGAN.

POULTRY

PLYMOUTH ROCK CLUB SHOW.

This show was held at The Poultry Breeders Association rooms in Los Angeles, Cal., on April 17th to 20th, and it was a treat to see the fine birds displayed in every color of Plymouth Rocks.

The White, Partridge, and Buff had especially fine birds on display, and great credit is due the genial Secretary, Mrs. A. A. Bamford, of Gardena, Cal., and the committee, Messrs. Armstrong, Bamford and Goodacre, for their untiring efforts in thus setting the pace for other clubs to come along with their birds at later shows intended in the same place.

The Live Stock and Dairy Journal—Could you please inform me the cause and remedy for slobbers in rabbits. My young stock is afflicted with it but am not troubled with the old ones. I feed nothing but alfalfa hay and rolled barley, and they have plenty of water to drink.—M. M., Petaluma, Cal.

Slobbers is caused by giving too much hay to young hares before they get accustomed to it, thus causing too much work on the salivary glands.

To cure, rub some table salt outside their lips and where the fur is wet. Change the feed, give dry toasted bread, rolled oats, a little wheat, dry bran, and once a week a little crumbly mash with greenstuff in, so change about. Leave out hay meantime, and when giving again, feed a little once a day.

Poultry Editor The Live Stock and Dairy Journal—Will you please say in your next issue if it is necessary to feed green cut alfalfa and sprouted oats at the same feeding, for we have plenty of the alfalfa, so thought it might not be necessary to give both. Yours truly, B. P., Ontario, Cal.

It certainly is not necessary to feed both, for there is nothing better than green alfalfa in the way of greens, and very few, if any, equal.

Poultry Editor The Live Stock and Dairy Journal—What is the average weight per dozen eggs of the Minorca breed, adult hens, and compared to those of White Leghorns?—H. L., Imperial, Cal.

Eggs of Minorca, especially Black, Minorca hens, average 28 to 32 ounces to the dozen when fed in the right way for egg production, while White Leghorns' eggs weigh from 23 to 26 ounces for same number.

Poultry Editor The Live Stock and Dairy Journal—Please tell us in your next issue what you think of the Chinese egg question in relation to the breeders' interests of this coast. Thanking you, yours truly, C. K., Stockton, Cal.

What do I think of the Chinese egg question? I think more of it than there is space to spare to publish in any one issue of this magazine, and as there is not room in these columns I may possibly write an article on the question for next issue, but in the meantime: If the people of this country knew under what vile unsanitary conditions the hens in China are kept, for the fowls are, from all reports by travelers and others, made to serve the dual purpose of scavengers and egg producers, as the ordinary class of natives have practically no sanitation around the dwellings, these people here would absolutely refuse to buy them. There is, however, another reason that is vital to the interests of the breeders here, and that is though the competition at present is apparently small to meet, the large interests involved, the immense

amount of capital invested in ranches here, the ways of living according to American standards, the paying of taxes and assessments, the upholding and keeping of the State and Government, and many other similar questions vital to the issue, are very plain reasons why Chinese eggs should be debarred, and completely so.

Poultry Editor The Live Stock and Dairy Journal—Three or four of my hens lay soft eggs every day and I can't see the reason of it. They have a good run with plenty of green grass and I get them plenty of grit. What shall I do? Awaiting your kind reply.—E. P., Nevada County, Cal.

You say nothing of supplying shell. To remedy, give plenty of oyster shell in a small box where they may help themselves, and mix two tablespoonfuls of lime in two quarts of water, when settled use two tablespoonfuls of the liquid to each quart of their drinking water daily for a week. If that does not remedy, write again, and say how you are feeding, and give proportions.

Poultry Editor The Live Stock and Dairy Journal—We have a lot of trouble with our duck and hens eggs this year. We had a man try to hatch some duck eggs in an incubator. He tried ninety-three and hatched four ducks. He had them in two separate incubators. They die in the shell as soon as they begin to hatch. Our eggs we set under hens did the same way, both duck and hen eggs. Most of the neighbors complain of their eggs doing the same way. We find a good many helpful articles in your journal. Hoping to see an answer in your next issue.—C. R., Yolo County, Cal.

Obtaining but four ducks from 93 eggs indicates one of a number of causes, lack of moisture, not sufficient turning, maybe no airing, perhaps a dry windy atmosphere during the time or latter part of the hatching, but in any case it would be better to use a hygrometer to show the amount of moisture. If one is bought the directions should be very carefully read over to fully understand the quantity of moisture required and how to obtain it in the incubator, and if hens eggs are placed in, the small instrument is just as essential to good hatching, for there should be no guesswork.

The eggs under the hens not having good results shows some probable dryness in the atmosphere, so if you will write again and say exactly what kind of climate existed during the time in your locality, if you used any moisture and how, how often the eggs were turned, when they were aired, what heat to commence and finish with, and if the heat went up accidentally and how far and often, I can give you more definite reasons for the failure, as any one of the above is a possible cause.

We are pleased to know you find something to help in these columns.

Poultry Editor The Live Stock and Dairy Journal—Will you please tell me what is the matter with my hens? Last week I found two that were swollen under the mouth, also the gills are swollen as thick as a persons thumb. The comb does not seem to swell, but both comb and wattles get a very pale salmon color. It does not stop them from eating and it seems to yield to treatment as I caught the first two hens and did what I could. I gave them peroxide of hydrogen diluted, and bathed both comb and wattles with same, and greased throat

and wattles with carbolated vaseline. The swelling seems to have gone down since I treated them, but today in looking over the flock I found two new cases, and I got alarmed and decided to write you at once for an early reply as I am worried, and would like to know what treatment to give to

keep this from spreading amongst the general flock. About fifteen months ago I had a frying size rooster with this same swelling. I treated him the same as I did the hens and he got well, and I did not keep him in the flock. After that I never saw any more cases until now. I feed both gyp corn and wheat, all clean, both night and morning. Also give all the milk, both sweet and sour, that they want. In the evening after their grain feed I feed mash of bran mixed with milk. They have all the shell they can eat. If you can give me a remedy for this trouble I shall be very thankful.—Mrs. M. P. B., Kings County, Cal.

It is a species of roup or contagious catarrh, and it requires strict separation of the sick from healthy, cleaning

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13	9:10a	10:50a	11:05a	
17	10:15a	11:45a	12:05p	
28	12:15p	1:50p	2:05p	
29	2:10p	3:45p	4:00p	
36	4:10p	5:50p	6:05p	
41	6:20p	7:55p	8:10p	
47	9:00p	10:34p	10:55p	

Northbound.	Leave No.	Stockton	Arrive Lodi	Arrive Sac'mto
4	6:00a	6:00a	7:55a	
10	7:45a	8:00a	9:35a	
16	10:00a	10:05a	11:45a	
22	12:05p	12:20p	1:55p	
24	1:45p	2:05p	3:35p	
38	3:45p	4:05p	5:35p	
40	6:45p	8:05p	7:35p	
46	8:30p	8:40p	10:20p	

STOCKTON-LODI SERVICE.
Leave Stockton, A. M.—5:10, 6:05, 7:00, 8:00, 9:00, 10:05, 11:05.
Leave Stockton, P. M.—12:15, 1:10, 2:00, 3:00, 4:05, 5:05, 6:05, 7:10, 8:30, 9:55, 11:20.
*Daily except Sunday.
Leave Lodi, A. M.—12:05, *6:05, 7:00, 8:00, 9:00, 10:05, 11:05p.
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CALIFORNIA HOLSTEIN-FRIESIAN ASSOCIATION. Jas. W. McAlister, Jr., Secretary, Chino, Cal.

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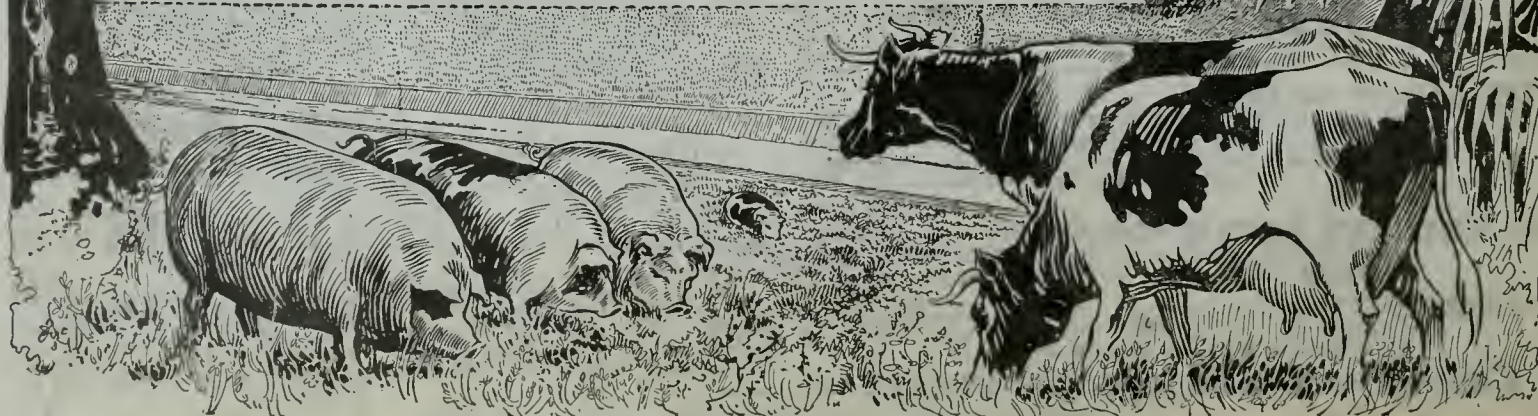
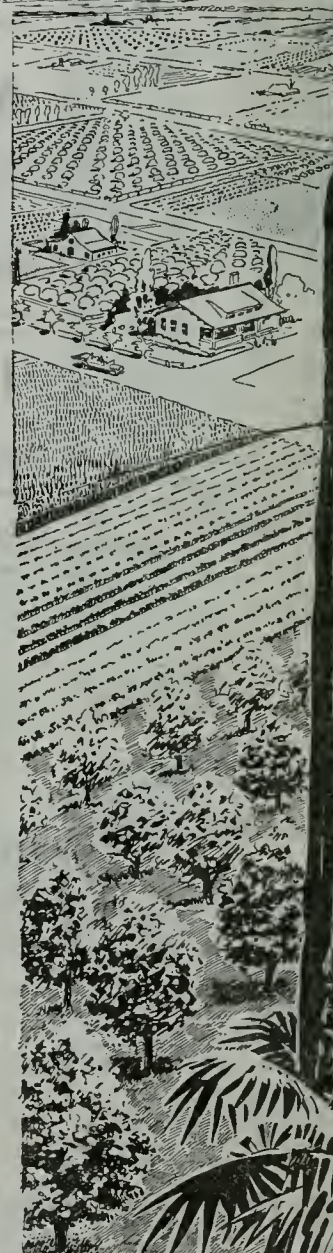
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THIRTEENTH YEAR

JULY, 1914



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The Live Stock and Dairy Journal

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Volume XIII. No. 7

BIG PRICES? YES
SOUND PRICES? YES

Very recently a half interest in the registered Holstein-Friesian bull, King Segis Pontiac Alcartra, was sold for \$25,000. Just a little more recently a 3-month's-old half brother to the same bull was sold in a public auction ring in Chicago for \$20,000. That these are high prices no one will deny. That they are sound prices, based upon good business practice and earning power will be denied upon many and numerous occasions. We believe that any man familiar with the Holstein-Friesian breed, and more familiar with that modest little contrivance known as a Babcock tester, can quickly convince himself that the prices stated are well within the earning value of the animals.

The genius of Professor Babcock gave to the world the Babcock test for determining the butter-fat content of milk, and made it possible to determine almost exactly the producing capacity of any cow to which the test is applied. Previous to the use of the Babcock test the buying of a dairy bull was largely guess work, even by the best judges of dairy cattle. In those days if a man had paid \$50,000, or even \$10,000, for a dairy bull it would have been because he valued money lightly and was guided by beauty of form rather than by known and proven production.

Today, however, thanks to Professor Babcock, a bull may easily be worth \$50,000, and even more, figuring on the cold dollars and cents basis of what the bull may be made to yield in profit. It is true that it requires a man of capital to properly finance such a bull, for his purchase price is only one item in the complete plan. In order to afford such a bull the fullest opportunity to earn interest upon the capital invested in him, it is necessary that he be mated with a great many cows of the best records to be found in the breed, and such cows cost money. Such a herd must be handled on a farm adequately equipped to give the cows the best opportunity to yield up to their greatest capacity, and such farms and such equipment and care

cost money. But—the Babcock tester has placed the investment of money in registered dairy cows upon the same plane as the investment of money in any other high-class security, and it has therefore attracted men of ample capital and resources to develop a herd of dairy cattle along the same business lines that they would develop any other investment property. Whether a man invests \$500 or \$50,000 in a dairy bull, the Babcock tester has lifted the transaction from a gamble to sound business practice, and while the \$50,000 bulls are going to be all too rare, there is an immense satisfaction to every breeder of dairy cattle to know that his product is fast growing into public favor as a gilt edge investment, and there is a fine incentive to greater effort in his breeding operations.

PAYING THE PRICE.

Effect follow cause even as in the olden days. Given a particular cause, men will always try to secure a different effect than that to which the law of cause and effect entitles them. The farm animal may be said to be the cause of alfalfa. Were there no animals to eat it, there would be no reason or cause for raising alfalfa. In the face of the fact that many of our California farmers have been going along the last few years in the face of a rapidly increasing acreage of alfalfa, content to sell their hay as long as it returned them a handsome profit without the trouble and responsibility of marketing it through farm animals. This year the effect has finally linked itself to the cause, and there are hundreds of thousands of tons of alfalfa with nothing to eat it. Then comes the rush for cattle, and lo! there are no cattle to be had. As a further result there is a lot of pencil work going on figuring ways and means to secure animals to consume the surplus of alfalfa. It is to be hoped that this year will be a lesson never to be forgotten by our alfalfa growers. There will always be a market for alfalfa hay outside the farms, but the man who has perhaps hundreds of acres of alfalfa and not a single head of stock is going to meet other years like this if he does not watch out. It may be all right to sell some hay, but every farm should carry at least enough stock to consume a part of the crop. If a man could go out and buy what stock he needs whenever the price of hay drops, then there would be no reason for a warning, but such a condition does not exist. With alfalfa at the price it is this year, and with grain feed down, the prices of beef, pork, mutton and butter are at points which admit of very satisfactory profits, but there are not enough animals to go around, and what is true of California is true also in most of the rest of the country as regards the scarcity of animals. If the man who owns good alfalfa land will just sit down and figure his probable returns over a period of years, figuring the selling of alfalfa hay on the market against selling it through farm animals, we believe that he will nearly always find in favor of the animal, except possibly in certain localities which are subject to abnormal conditions.

WILL IT HAPPEN AGAIN?

Did you have to sell part of your cows last season because of shortage of feed? Are some of your heifers stunted this year because of lack of feed last year? Did you sell all of your stock at low prices last year to save them from starvation, and pay high prices to secure enough stock to eat up the abundant feed of this year? Are you going along in the same old rut again, leaving yourself exposed to another similar experience the first

dry season that comes along? Or have you taken the wise step that has already been taken by hundreds of coastfeeders and dairymen and provided yourself with one or more silos? The silo may not solve all of the problems of stock farming, but it certainly does solve one of the greatest problems that has for years baffled Pacific Coast live stock owners, and it is the best insurance in the world against ruinous forced sale prices with subsequent loss of the natural animal increase which we should have.

NEARLY SHOW TIME.

Soon we shall be in the midst of district, county and state fairs. We have material on the Pacific Coast to put up the greatest shows of live stock that we have ever had. We hope to see more representatives of the smaller herds and flocks at our fairs this year. Many of the smaller breeders have stock of excellent quality, and in more than one instance they would be among the winners. If a breeder has not enough stock to fill a car to and from the fair, let several breeders in one neighborhood get together and combine their shipments. This is very frequently done, and gives the small breeder an excellent chance to show his stock, and learn how it compares with his competition. There is no place or method which gives a breeder better advertising than a well conducted fair. He has an opportunity to show his stock to scores of buyers who might never be induced to visit his farm. Many of these buyers are in the market regularly every season, and while the first sale might not show a great deal of profit, it might win a customer who would buy many times during a few years. This year especially we advise every breeder to show at some fair. At the State Fair if possible, but certainly at the local or county fair. There is going to be an unprecedented demand for breeding stock this fall all over the Pacific Coast, and the breeder who takes some of his stock to the fairs is going to enjoy quite an advantage over the one who visits the fair and tells about the good ones he has at home.

PUBLIC SALES OF LIVE STOCK

It is practically impossible to gather together enough registered stock of any one breed in any one locality in California to make material for a public sale. In fact, it would require something amounting almost to genius on the part of any man who could gather from the whole State a sufficient number of animals of any single breed to make a fair sized sale. And yet there are buyers aplenty who would patronize such sales could they be held. We would like to see a great deal of Eastern stock of all kinds brought into California and offered at public sales. We doubt if there would be any great amount of profit in it for the man who brought the stock out, yet at the few sales we have had bidders show a disposition to pay fair prices. California is going to be for many years a heavy purchaser of registered farm animals, and there is a particularly good opening right now, especially in the breeds of dairy cattle, hogs and beef cattle, for breeders or importers to make a beginning with public sales, starting out on a modest scale possibly, and broadening out as the reputation of the seller becomes better established, and public confidence inspires more liberal buying, for the man who looks well to the quality of the stock that passes through his sales ring is the man who is going to stay.

INTERESTING THE BOYS AND GIRLS.

There is no more absorbing study in the world than the study of breeding of registered farm animals. If there is anything that can rivet the attention of our boys and girls to the farms it is a study and resultant knowledge of animal life. There are thousands of boys and girls on our farms who are not getting a fair opportunity to get a correct idea of the value of properly bred farm animals. A boy born and raised in the surrounding of the scrub dairy cow, and who feels during his boyhood the pinch of poverty that is one of the penalties of the scrub, is not apt to develop any great enthusiasm or respect for the dairy cow in general, and it is not surprising when he turns his step cityward to escape from what seems to him certain poverty. Many such boys could be started on the right road with just a little bit of the right kind of instruction in their district school, and a lot of useful information might be imparted to their fathers through them, when it would be impossible to reach them in any other way.

SILOS AND PROFITABLE PRICES

The highest priced dairy bull in the world is in the state of New York, which has the most silos of any state in the United States. There are more herds of registered Holstein-Friesian cattle in New York state than in any other state in the Union. Most of the highest average prices on dairy cattle in public sales are realized in New York state. We confidently believe that none of these things would be possible without the silo, and we lived a good many years on a dairy farm right in the dairy hotbed of New York state.

Again, let us consider Wisconsin, famous all over the country for the quality of her dairy cattle, both grade and purebred. Wisconsin ranks second to New York in number of silos in use, and Wisconsin dairymen have prospered immensely as more silos have been built. Take any state in the East or Middle West, and the prosperity of its live stock raisers and dairymen is in almost direct ratio to the number of silos in use. The silo is the sound idea around which a multitude of profitable feeding formulas may be constructed, and it has been a certain advance agent of prosperity wherever it has been given an opportunity.

ROOM FOR MORE SHEEP.

A number of different farms that we have been observing quite closely lead us to believe that sheep are one of the most profitable crops that can be marketed from our alfalfa lands. We have not yet been able to secure the actual figures covering a sufficiently long period to make the figures at all impressive, but we feel safe in saying that as soon as a little more experimental work has been carried on to determine actual costs and profits, that there will be a great deal of California alfalfa marketed through sheep. As a profit maker the mutton farm is going to rank up quite well with the average dairy farm, and it is quite probable that the raising of sheep will be found to be more profitable than the milking of such cows as we find on too many of our farms. There will hardly be an oversupply of mutton in the immediate future. The American public is only just beginning to place mutton in its proper place as a food, and the more general use of it is increasing rapidly. The raising of sheep on alfalfa lands will appeal to many men who do not like the exactions and details of the dairy business.

SHEEP

DOGS AND OUR MUTTON SUPPLY

In spite of increasing popularity of mutton and lamb and the high market prices for sheep there has been no increase in the number or size of flocks in the farming states.

We have only to glance at British agriculture to appreciate the fact that as land advances in value and better business methods are adopted the place of the sheep upon farms becomes an increasingly important one.

The superfluous dog in villages and on non-sheep raising farms constitutes a very serious obstacle to the logical development of farm sheep husbandry in the United States. The Bureau of Statistics has recently received from its county crop correspondents a very interesting and suggestive set of replies to questions prepared by the Bureau of Animal Industry.

One of the questions asked for an estimate of the extent to which the present numbers of sheep might be increased without displacing any other farm stock. A great many of the correspondents gave 1000 per cent in answer to this question. Answers to this and similar questions were summarized for thirty-six states. In twenty-seven states the correspondents state that there might be an increase of over 100 per cent in the number of sheep kept without displacing other stock.

When asked to name the things that prevent more general keeping of sheep thirty states give as a large majority of their answers "dogs." Six states answer "fences," indicating a lack of working capital as a hindrance to sheep raising. The total replies from the thirty states referred to are distributed as follows: Dogs, 526; fences, 191; price of wool, 122; miscellaneous, 93.

The following shows the proportion of answers under each head from a few representative states:

State.	Dogs	Fences.	Price of Miscellaneous.	
			Wool.	
Maine.	10	1	4	—
N. Y.	17	8	4	4
Va.	40	15	—	2
Ga.	36	6	—	3
Ohio.	29	2	33	3
Mo.	30	12	9	2
Ky.	49	3	2	2

Competent opinion seems well agreed that the dog stands in the way of an increased supply of one of the chief kinds of meat. In answer to this arraignment of the dog it is sometimes stated that owners of sheep killed by dogs are compensated for their losses from the dog tax fund of the municipality. It is true that a considerable number of counties do compensate the owners of killed sheep, but the rate of compensation practically never exceeds the actual meat value of the animals killed. Such redress, while it may alleviate the seriousness of the sheep owner's immediate loss, is in no way conducive to the stability or extension of sheep raising.

Compensation for damage done by dogs seldom takes account of injury to that part of the flock not killed. These are often maimed and rendered so uneasy and unthrifty for months that the lamb crop of the following spring is seriously lessened. In addition to this uncompensated loss, there is the discouragement of the owner and the spread of the idea among other farmers that sheep raising is unsafe and unsatisfactory.

The Treasurer of one county in Ohio reports that 649 sheep were paid for in 1913 as having been killed by

dogs. In one Indiana county having 24,000 sheep, 300 were killed by dogs in 1912. This probably means that sheep were killed by dogs in one-fourth or one-fifth of the flocks. In the course of ten year shee flock that has not been invaded by dogs is the exception. News of such loss makes a much deeper impression upon non-sheep raisers than does anything they may hear in regard to profits from a flock so fortunate as to escape the attack of dogs.

When the states levy taxes sufficiently high to curtail the number of unnecessary dogs and put upon the dog owner the burden of keeping the animal off of other people's farms, then the sheep industry will have a fair chance to contribute as it should to the nation's meat supply.

BEDDING OUT SYSTEM IS ADVOCATED FOR WESTERN SHEEP RANGES.

As a result of experiments during the past few years the Department of Agriculture is now advocating the use of the bedding-out system of herding sheep on open ranges, instead of the old close-herding system which has heretofore been in use.

This system gets its name from the fact that the herder who attends the band camps and beds his flocks wherever the sheep find themselves at nightfall. Under the old plan he established a fixed camp and bed-ground and drove the sheep back to the same place each night.

Lambs Are Heavier.

Through experience on the national forest ranges last year the Department states that lambs from bedded-out bands were five pounds heavier on an average at the end of the season than those which were trailed to and from established bed-grounds, and that the range can carry from 10 to 25 per cent more sheep than when so much is trampled out in traveling back and forth. The disadvantages of the old system, according to the Department, were twofold, those to the forage and those to the sheep. The forage suffered by being trampled badly, and being actually destroyed at and near the bed-grounds; the sheep lost weight in going to and from the camps, and in dry weather suffered not a little from dust and crowding.

Moreover, under the old system the sheep were kept pretty well bunched; under the new plan they graze at will in scattered, open flocks. During the day the herder moves about in a wide circuit around his charges, looking for tracks to see that none of the sheep has strayed beyond his circle. The sheep are constantly moving through new feed instead of traveling over areas already fed over.

Few Sheep Lost.

Sheepmen have maintained that the

close herding system so long in use was necessary to prevent losses from straying, and from the ravages of animals, such as wolves, coyotes and mountain lions. The experiments of the service show that straying can be prevented, and one band on the Payette forest, Idaho, which never bedded two nights in the same place, and which grazed in timber and brush practically the entire summer, lost only four head; in this, as in the majority of cases, the loss under the new system was less than under the old one of close herding.

The forest rangers and trained hunters of the service co-operate with the herdsmen to rid the ranges of predatory animals, and to render the danger of loss from this source less than it was formerly.

Sheep Owners Endorse It.

How the new system is regarded by the sheep owners is indicated by the following letter to the Supervisor of the Tahoe National Forest, California:

"I am in favor of the 'blanket' or 'camping-out' system of sheep herding. I have always found the sheep and lambs in better condition when camped out, and in feeding the range in that way it will carry more sheep, and it does not damage the range as when they are driven to one camp. I have always been very careful about feeding my summer range, and I think, by the way I have had it fed, it is as good if not better than it was twenty years ago."

The author of this letter, according to local forest officers, is a very successful wool grower, and the range which he uses under permit from the Government is always in the best condition, and yet is stocked with sheep to its fullest capacity.

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INCREASING USE OF FERTILIZERS ON AMERICAN FARMS.

That American farmers are using constantly increasing quantities of fertilizers is evident both from the rapidly growing production of soil foods in the United States and from the marked increase in importations of that class.

A steady increase in the available supply of fertilizers is indicated by the latest statistics of the Government. The domestic manufacture of fertilizers, for example, as reported by the Bureau of the Census, in 1909, amounted to 104 million dollars, or nearly double the total reported for 1904. Of phosphate rock the domestic production has doubled since 1902, the total for 1912, according to the United States Geological Survey, being about three million tons, of which one million tons were exported. Of cottonseed oil cake, about one-fourth of the total consumption of one and one-half million tons is used for fertilizer purposes, recent estimates placing the value of the oil cake thus employed without first feeding it to animals at from six to eight million dollars per annum. The domestic production of sulphur, which yields sulphuric acid, an important material in the manufacture of fertilizers has increased enormously in recent years—from 3147 long tons in 1900 to 303,472 tons in 1912, exclusive of about 350,000 tons of pyrites, also a source of sulphuric acid. About 90 per cent of all the sulphuric acid made in this country is used in the preparation of superphosphates and other artificial fertilizers.

Imports of fertilizer materials have also increased, data compiled by the Bureau of Foreign and Domestic Commerce, Department of Commerce, for the period ended with April, 1914, indicating greatly enlarged arrivals of nitrates, potash salts and other similar materials. The important exceptions relate to those articles, the domestic production of which has so increased as to obviate the necessity of large importations, as in the case of phosphates, and to those, the supply of which has diminished, as in the case of guano, formerly abundant in South America, South Africa and certain Pacific islands, but yearly becoming more scarce as an article of commerce.

Nitrate of soda ranks first in value of imports of fertilizer materials, the total imports thereof in the last fiscal year having exceeded a half million tons, valued at over 20 million dollars. About 15 per cent of this is used for fertilizer. Of sulphate of ammonia, the imports increased from 15 thousand tons in 1903 to 55 thousand tons, valued at nearly 4 million dollars in 1913, and in the July-April period of the current year have already reached 71 thousand tons. We also imported 15 thousand tons of calcium cyanamid, popularly known as "air-nitrogen compound."

Kainit, a potash salt of very low price, was imported last year to the extent of 466 thousand tons, valued at two million dollars; sulphate of potash, 43 thousand tons, valued at nearly two million dollars; and other fertilizer salts 172 thousand tons, valued at two million dollars. About 90 per cent of the imported potash is used for fertilizers, and only about 10 per cent in the manufacture of glass, soap making and other chemical industries. The imports of both the nitrates and the potash salts have more than doubled in the last ten years.

Other important fertilizers imported last year included 33 thousand tons of bone dust, or animal charcoal; 15 thousand tons of Thomas meal, derived from basic slag, a phosphorus-bearing by-product of the Thomas-Gilchrist process of making steel; and 115 thousand tons of miscellaneous substances used only for manure. Our imports of guano, which amounted to 17,218 tons in 1903, amounted to only 16,462 tons

in 1913; and those of crude phosphate have fallen from 153,096 tons in 1903 to 23,478 tons in 1913, a decrease of 85 per cent in the decade.

The United States obtains practically all its potash salts from Germany; its nitrate of soda, from Chile; its bone dust, chiefly from Europe, Canada and India; and its miscellaneous fertilizers, mostly from Canada, Germany, Belgium and the United Kingdom.

GROWING NODULES ON LEGUMES

That the production of nodules on the roots of leguminous plants promotes plant growth is so generally recognized that nodular formation, either by natural or artificial means, has become one of the present day farm problems. The beneficial effects of nodules on alfalfa, clover or pea are usually evident on succeeding crops. The addition to the soil, of the imported element, nitrogen, is of such value that it is very much to the advantage of the farmer that the roots be well covered with nodules.

The nodules are swellings on the roots caused by the entrance and development of certain bacterial forms which have acquired the power of absorbing the nitrogen necessary for their growth from the air instead of from the soil, as most other plants are obliged to do. Part of this nitrogen is available to the plant on which the nodule is formed and part of it is left in the soil by the decaying nodule at the end of the season. Succeeding crops are thus benefited. Increased activity of the legume, due to the presence of nodules, enables the plant to attack and fit for its use other soil elements, a part of which are left stored in the roots which become available for following crops as decay takes place.

There are several ways of producing nodules by different systems of inoculation where the proper forms do not exist. Those most commonly used are the scattering of infected soil taken from a field where nodules are produced; the inoculation of seed or soil with laboratory cultures; and the inoculation of seed or soil with the extract of crushed nodules. The inoculation of a field by the use of soil from another field usually produces the nodules, but may introduce new weeds and also crown gall. No objection can be offered, from the standpoint of pests, to the use of laboratory cultures or carefully chosen nodules.

To secure the most satisfactory results through inoculation with laboratory cultures or crushed nodules the following points should be observed:

1. Keep the culture and the inoculated seed from the sunlight, for strong sunlight kills bacteria.
2. Do not use ashes on the seed after inoculation to assist in the drying, but only fine road dust.
3. Do not use cultures on soil that is strongly acid without the use of lime.
4. Arrange for proper drainage so that air may enter the soil or the bacteria, which are "air-loving," will not thrive.
5. Do not use water too freely in irrigating for several weeks after sowing or most of the bacteria may be washed out of the soil or beyond the reach of the young roots.

W. R. WRIGHT,
Assistant Bacteriologist, Idaho Experiment Station.

Charles Rule of Sonoma County, Cal., recently brought out two carloads of registered Herefords from the East, and is going into the Hereford breeding business on quite a large scale. There are quite a lot of Herefords on the coast ranges, and the presence of a large registered herd in Sonoma County will result in a great convenience and advantage to coast cattlemen.



HARNESS
is expensive. The longer your harness lasts, the more money in your pocket. An occasional application of

EUREKA HARNESS OIL

keeps your harness in first-class condition—just the way it came from the shop. Eureka closes up the pores, preserves the fibre, and keeps out moisture, dust and sweat. It keeps your harness strong, flexible—jet black. It **pays** to use it. Dealers everywhere.

Standard Oil Company (CALIFORNIA)

STOCKTON, CAL.
P. O. Box 679

LOS ANGELES, CAL.
P. O. Box 1117

H. B. THORNBERRY

Dealer in Registered and Pedigreed



Jacks and Jennets

Largest Importer in the United States. Stock sold under the very best possible guarantees, and with terms to suit purchasers.

See my stock at Fair Grounds, Stockton, Cal.

100 Shetland Ponies

I have what I believe to be the best lot of fancy colored Shetlands in America—Spotted Ones—Blue and White—Bay and White—Black and White—Chestnut and White, also solid colors—including a number of snow-

A number of Welsh Ponies both mares and geldings.

white ponies which are very rare; also a number of mares which will have colts soon.

Prices range from \$110 for well broken geldings to \$250 for fancy mares.

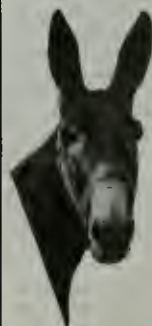
H. T. MORGAN, Glen Ellyn, Illinois

HORSES And MULES SHETLAND PONIES

I both buy and sell mules and horses. Have on hand at all times mules to hire in carload lots. Also breed Shetland Ponies, and have several weanling colts and a few well broke ponies for sale.

J. L. MENDENHALL, Williams, Calif.

Registered Jacks



Twelve head from 2 to 6 years old. Native Sons, hardy as Billy Goats and about as active.

Extra heavy bone and right every way. Fully tested as breeders and sold under an absolute guarantee. Will trade for Young Mules, Horses, or Land. Come and see the stock.

Phone M. 471-J.

Res. 508 N. Douty Street

J. W. McCord

Hanford

California

BEEF CATTLE

Putting 50 Per Cent More Weight in Steers Through Use of Purebred Bulls.

The Parrott Grant in Butte County, Cal., is one of the famous old ranches of the State, containing 18,000 acres. For many years the ranch has been grazed by sheep and beef cattle. Of late years it has been farmed on modern principles, and at the present time there is a fine 200-acre orchard of prunes, apricots and olives in bearing. About 1300 are in grain, and over 300 acres in alfalfa.

The beef cattle on the range are all grade Shorthorns, except, of course, the herd bulls, which are all registered Shorthorns. Purebred bulls have been used on this ranch for a long time, but it was the custom formerly to buy new bulls only at long intervals, and as a result a great portion of the herd became inbred to the detriment of the whole herd. About six years ago the ranch was placed under the superintendency of G. A. Waugh. The steers marketed that year at an age of about 26 months averaged 800 pounds in weight. This was not satisfactory to Mr. Waugh, and he sought a remedy in the use of better herd sires, and a frequent infusion of new blood. A purchase of high quality registered Shorthorn bulls was made, and since that time a new lot of bulls has been brought into the herd every two years, and each lot has been fully up to the standard required by Mr. Waugh. The cattle are grazed and fed exactly as they were six years ago, so that any improvement must come through the bulls in use, and the result of their influence on the herd is one of the strongest testimonials as to the value of the proper use of the purebred beef sire that we have come across in many a day. Note please, that 26 months' old steers were being marketed six years ago weighing 800 pounds. The

average was raised every year since until in 1912 the steers sold at the same age averaged 1116 pounds, and in 1913 they averaged 1160 pounds at market time. It will be noted that while there was an immediate higher average weight of steers in the first crop sold after introducing highly bred bulls into the herd, the greatest increase in average weight came when steers out of the daughters of these first bulls came to market age.

This is a splendid showing for six years proper use of high-class registered Shorthorn bulls, for the average weight of steers fed exactly the same and marketed at the same age as formerly, has been raised from 800 to 1160 pounds, or nearly 50 per cent. Mr. Waugh has always secured unusually good lots of bulls. It is true that he has paid a little more than the average buyer thinks is a proper price, but the few extra dollars per head that he has paid in order to secure the quality he demanded has been paid back to him many, many fold in increased profits from the steers sold.

The ranch also carries about 5000 head of Merino ewes. It has been the practice to breed them to Shropshire rams, and the lamb crop has been a very profitable one. Last year the entire crop was shipped to Chicago, but this year it goes to San Francisco.

Like many of the other great ranches of California, the dairy cow was not looked upon with favor here. Some time back it was finally decided to establish a small dairy to supply the some ninety workers on the ranch with milk, cream and butter. Accordingly a seventeen cow dairy was established and it has proved so profitable that it would not be at all surprising to see a full sized dairy bloom on this ranch one of these days.



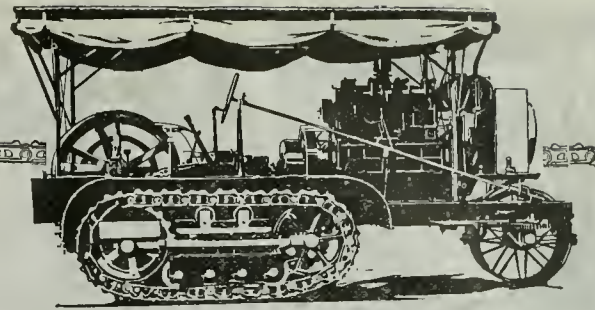
Year Old Shorthorn Steers on Parrott Grant.

Thornton S. Glide, proprietor of Hillcrest Stock Farm, Davis, Cal., writes the *Journal* that demand for Merino rams is particularly good this year, as a large number of sheep raisers are replenishing their ewe flocks. Mr. Glide is offering a fine lot of Shropshire and Merino rams in his advertisement in this issue.

H. Gable of Woodland, Cal., recently brought from the East a small herd of registered Herefords. The increasing popularity of this breed in California has brought about a demand for good registered breeding stock that can nowhere near be met by the capacity of the herds now in the State, and Yolo County is a particularly desirable location for Herefords.

C. S. Rasmussen, proprietor Pacific is building up a herd of registered Holstein-Friesians. Mr. Crellin has had much valuable experience in the handling of registered cattle, and in official test work, and we may expect to hear something good from his herd when he gets under full headway.

C. S. Rasmussen, proprietor Pacific Guernsey herd, Loretta, Cal., has just received a new importation of registered Guernseys from the East. We have not a complete list of the animals at this writing, but Mr. Rasmussen wrote the *Journal* some time ago that he was going to pick up some of the best he had, and he has a reputation for getting good ones.



Free Service For Caterpillar Owners

ALL Caterpillar Tractors are backed by Caterpillar service. We keep a corps of trained tractioneers constantly in the field, moving by automobile from one Caterpillar owner to another. If you buy a Caterpillar this expert service is given to you free.

CATERPILLAR

Reg. U.S. Pat. Off.

Our expert makes you familiar with the construction and operation of the Caterpillar. He assists you with any minor repairs. He tells you how "Smith," over on another ranch, is using his tractor in a way which you might adopt to advantage. And he comes again a few weeks later. He keeps in touch with you constantly and makes you one of the great family of Caterpillar users. In rush seasons, when delays are costly, this service is of particular value to you. Parts are always on hand ready for emergency delivery.

The Caterpillar has proved a practical, all-round tractor to thousands of ranchers in California. It is because of the Caterpillar track. With its big bearing surface it gets a sure grip on the ground—no power is wasted. It prevents soil packing. Get our catalog E. C. 56 and find out more about the Caterpillar. Why not write today?

The Holt Mfg. Co., Inc.

Stockton, Cal.
Los Angeles, Cal.
Peoria, Ill.
New York, N. Y.

San Francisco, Cal.
Spokane, Wash.
Portland, Ore.
Houston, Tex.

Hopland Stock Farm

Breeders of
Registered Shorthorn Bulls

Ready for Service, Range or Otherwise.
SHROPSHIRE SHEEP and BERKSHIRE
HOGS. HUNGARIAN PONIES, saddle or
harness. Prices on application.
HOPLAND, CAL.

HOWARD CATTLE CO.

SHARON BUILDING,
55 New Montgomery St., San Francisco
PEDIGREED LIVE STOCK

The demand for Bulls is large in California, and the supply limited. We would suggest your placing orders well in advance.

WILLOWHURST FARMS

GALT, CALIFORNIA
HANFORD, CALIFORNIA

Hereford Cattle for Sale. Excellent Pedigree

JAS. WHITAKER, : : : Proprietor
GALT, SACRAMENTO CO., CALIFORNIA

BIG MONEY in the OFF SEASON

There's a big demand for Irrigation wells throughout California and the Southwest. You can Make Big Money during your spare time with the

IMPROVED POWERS COMBINED BORING AND DRILLING MACHINE

Bores a 100 foot well in 10 hours. Will go through gravel, sand or clay drills through rock. One team takes it over any road. Operated by same team or by gas engine if preferred. No tower or staking. Catalogs, Easy Terms.

Lisle Mfg. Co.
Box 425, 625 Third St., San Francisco.

STOCKTON—LODI—SACRAMENTO

8 TRAINS DAILY EACH WAY
Between Stockton and Sacramento.
18 TRAINS DAILY EACH WAY
Between Stockton and Lodi.
BAGGAGE CARRIED ON ALL TRAINS

Central California Traction Co.



Southbound.	Leave	Arrive	Arrive
No.	Sac'mto	Lodi	Stock'n
7	7:10a	8:45a	9:00a
13	9:10a	10:50a	11:05a
17	10:15a	11:45a	12:05p
23	12:15p	1:50p	2:05p
29	2:10p	3:45p	4:00p
35	4:10p	5:50p	6:05p
41	6:20p	7:55p	8:10p
47	9:00p	10:34p	10:55p

Northbound.	Leave	Leave	Arrive
No.	Stock'n	Sac'mto	Sac'mto
4	6:00a	6:00a	7:55a
10	7:45a	8:00a	9:35a
16	10:00a	10:05a	11:45a
22	12:05p	12:20p	1:55p
28	1:45p	2:05p	3:35p
34	3:45p	4:05p	5:35p
40	5:45p	6:05p	7:35p
46	8:30p	8:40p	10:20p

STOCKTON-LODI SERVICE.
Leave Stockton, A. M.—5:10, 6:05, 7:00, 8:00, 9:00, 10:05, 11:05.
Leave Stockton, P. M.—12:15, 1:10, 2:00, 3:00, 4:05, 5:05, 6:05, 7:10, 8:30, 9:55, 11:20.
*Daily except Sunday.
Leave Lodi, A. M.—12:05, *6:05, 7:00, 8:00, 9:00, 10:05, 11:05p.
Leave Lodi, P. M.—12:20, 1:00, 2:05, 3:00, 4:05, 5:00, 6:05, 7:00, 8:40, 9:10, 10:37.
*Daily except Sunday.

DEPOTS:
1024 Eleventh Street.....Sacramento
3407 Magnolia Avenue.....Oak Park
Odd Fellows' Building.....Lodi
Hotel Stockton.....Stockton
Connections made at Sacramento with Northern Electric trains to and from Marysville, Oroville, Chico, Woodland and way stations, and at Herald with Amador branch trains.
At Stockton with Santa Fe for San Joaquin Valley points and Tidewater Southern Railway for Modesto and Way Stations.

S. W. BARNES,
Traffic Manager, Stockton, Cal.

Knob Hill Stock Farm REGISTERED POLAND CHINA SWINE

I offer young stock of both sexes out of prize winning stock. Call and see my herd or write for prices.

A. M. HENRY, FARMINGTON, CAL.

REGISTERED PUREBRED POLAND CHINA SWINE
Herd headed by Designer (160363), Grand Champion Boar Oregon State Fair, 1911. Seven champion crosses close up. My Sows are Equally as Well Bred.
HAVE NOT HAD CHOLERA IN MY HERD FOR THIRTY YEARS.
Choice Pigs for Sale. (Registry Free to Purchaser).
S. F. WILLIAMS
CHICO, CALIFORNIA.

THE SWINE HERD

U. S. WARNS AGAINST ALLEGED HOG CHOLERA CURES.

Government Has Not Approved Any Treatment Except the Protective Serum.

Evidence of what appears to be a well organized campaign to delude farmers throughout the country into buying an alleged cure for hog cholera, under the impression that this has been investigated and approved by the United States Government, has reached the Department of Agriculture. Articles praising this medicine, Benetol by name, are being sent out widespread to newspapers. These articles are so worded that it appears as if the Department of Agriculture had received reports from the state of Minnesota showing that the medicine had proved most beneficial. As a matter of fact the one report received by the Department was an unofficial and unsolicited statement sent presumably from the promoters themselves. The Department attaches no importance whatsoever to this statement. It has no reason to believe in the efficiency of any proprietary cure for hog cholera and does not recommend any. Under certain conditions it urges farmers to protect their stock with anti-hog cholera serum, but that is all.

In connection with this attempt it may be said that the medicine, which is now put forward as good for hogs, was advertised some time ago as a means of killing tuberculosis, typhoid and cancer germs, according to an article published in the Journal of the American Medical Association. At that time it was asserted that the army was interested in it. As a matter of fact the army was no more interested then than the Department of Agriculture is now.

In view of the evidence that the attempt to create this false impression is persistent and widespread, all hog owners are warned to communicate with the United States authorities before accepting as true any statement that the Government recommends any treatment other than the serum already mentioned.

HOG MEN MEET.

The annual meeting of California Swine Breeders' Association was held at State Farm, Davis, on June 2d, and brought out a representative body of breeders and growers.

The meeting was called to order by President G. A. Murphy, and after the minutes of the last meeting had been read and approved, the election of officers for the ensuing year was held. A. M. Henry of Farmington was elected President, J. K. Fraser of Denair Vice-President, and J. I. Thompson was re-elected Secretary-Treasurer. H. G. Armstrong, G. A. Murphy, C. B. Cunningham and Charles O'Dell were elected Directors. This is a good, live set of officers, and we believe that the Association will make substantial progress during the coming year under their direction.

After the election of officers, Charles Keane, State Veterinarian, made a short talk upon ways and means for the organization of the hog men of the State to combat hog cholera. Dr. Keane's office is working out a plan of county associations, the first county to organize having been Colusa.

Various matters affecting the swine industry in the State were then discussed, and the meeting developed into nearly an all day session, and a profitable one to every man who attended.

The following resolutions were adopted:

Whereas, The temporary swine sheds in the State Fair grounds at Sacramento are inadequate for the purpose of properly showing the exhibits of California swine breeders, and the facilities of such sheds are lacking to such an extent that serious loss is threatened to owners of properly fitted show swine; be it

Resolved, That the Director of the State Agricultural Society be respectfully requested to make provision for the coming State Fair to properly shade the south side and the ends of the swine sheds, that the animals on display may be protected from excessive heat, and that additional water taps, preferably six to each shed, be provided for the coming Fair, and that means of egress to the judging ring be provided in the center of each swine shed, and that board floors be provided in all swine sheds; be it further

Resolved, That the Directors of the State Agricultural Society be requested to take steps to afford better facilities for shipping exhibits to and from the Fair grounds; be it further

Resolved, That this Association recognizes the fact that the necessary improvements to make the State Fair grounds a suitable plant for the proper display of the resources and products of California will cost a greater amount than the ordinary annual revenue of the State will justify, and that we heartily endorse the proposition of issuing bonds in the sum of \$750,000 as provided for in the act of the Legislature to be voted on at the general election in November, 1914, and urge the voters of the State to approve and adopt the State Fair grounds bonds.

DOUBLES PIGS' WEIGHT BY SKILL IN FEEDING SOWS.

Pigs twice as heavy as most pigs are at birth are being farrowed at the University Farm of the University of California, at Davis.

High condition of the sow is the chief cause. The feeding of a properly balanced ration brings about this high condition. The Farm is careful that it shall be accompanied by sufficient exercise. That the results are desirable and highly profitable has now been established. The old notion has been disproved that high conditions lessens the sow's prolificacy.

These investigations are valuable to the stockgrowers of California as overthrowing the mistaken idea that high condition is necessarily injurious to breeding animals.

Carefully kept records of pigs farrowed at the University Farm show a total of 222 live pigs farrowed from 24 sows. Of these 24, fourteen have their first litters. The birth weight is just as remarkable as the number, for they weigh as much as four and two-tenths pounds at birth and are exceptionally vigorous. So far the average birth weight has been approximately 3.2 pounds, yet anything over 2.2 pounds is considered heavy.

That these sows in high condition are heavy milkers, thus inducing rapid

and economical gains on the young pigs, is attested by the weight of the last litter weaned. These pigs were sixty-one days old on the day they were weaned and averaged 55 pounds in weight. These results are still more remarkable because they represent the average production of six different breeds, at least one of which has been criticised for being very unprolific.

No feeds other than those produced on the University Farm are used except wheat shorts or middlings. Alfalfa pasture is utilized whenever available, except in the fall, after it has been frosted. The pigs are weighed

HAMPSHIRE SWINE



The breed that has won over all others for several years in the dressed carcass contest at International fat stock show.

My herd has been selected with great care, and is headed by El Salvador, winner of two silver cups in the strongest competition in the Middle West. I have a choice lot of young registered pigs of both sexes for sale. Also a number of choice boars ready for service. Write for prices.

FRANK REED SANDERS
MESA, ARIZONA.
In the Salt River Valley.

PURE GOLD STOCK FARM

Breeders of BERKSHIRE HOGS
HOLSTEIN-FRIESIAN CATTLE

Offers for sale a few Choice Boars of breeding age, and a number of Boar Pigs containing the blood of Masterpiece and Robinhood. Prices, \$25 to \$75. Also one choice Yearling Bull of good breeding.

MARKOFER & LATTI, Elk Grove, Cal.

Poland Chinas Iowa Wonder, son of A Wonder, heads herd. His daughters are bred to a stylish son of Banker's Model. These Pigs sell quickly, and it would be well to place orders for Spring Pigs now.
N. HAUCK, Alton, Humboldt Co., Calif.

BERKSHIRES REGISTERED BOARS OF ALL AGES.

Two especially fine Boars ready for immediate service, at a sacrifice price. Also White Leghorn Hatching Eggs for sale.
RICCONI BROS.,
Mountain View, Cal.

DUROC SWINE Choice young of stock, pairs and trios, no kin. Blood first prize winners of 1913. One yearling boar, prize taker. Prices right. **J. K. FRASER, Denair, Cal.**

DUROCS Out of first prize winners State Fair. Boars ready for service. Choice gilts. Pigs, either sex, \$15.
ED E. JOHNSON, TURLOCK, CAL.

Glenview Ranch LARGE TYPE, REGISTERED POLAND CHINAS

Have a fine, vigorous lot of Baby Pigs of both sexes. Quality and price right. Order early as supply is limited.

CHAS. R. HANNA,
R. 3, Riverside, Cal.

MULEFOOT HOGS Let me send you some printed matter describing this great breed of hogs.
J. H. NORTON
R. F. D. 1, MESA, ARIZONA.

OHIO IMPROVED CHESTER

PIGS!

PIGS!

PIGS!

My herd has been Immunized Against Hog Cholera by the administration of the Combination Serum Treatment by a Graduate Veterinarian.

The heavy demand for breeding stock has left me with only a limited number of pigs for sale, and prospective buyers should make reservations for fall pigs now.

C. B. CUNNINGHAM

MILLS, SACRAMENTO COUNTY, CALIFORNIA.

at birth and the sows as soon afterwards as possible, and both are weighed each week thereafter until the pigs are weaned. All of the grain and milk for both sow and pigs are weighed and the area of the pasture measured so that later it will be possible to determine accurately the complete cost of producing pork under California conditions.

This experimental work in animal industry, together with much other, including milk production from different breeds of dairy cows and milch goats, is available for inspection whenever visitors come to the University Farm, and is useful also in connection with instruction in the College of Agriculture and the Farm School.

IOWANA.

To many of our readers the name Iowa is a familiar one, especially those who are breeders of Holstein cattle and Berkshire hogs. There are many others, however, who may not be so well acquainted with the record of Iowa Farms, Davenport, Iowa, and a brief introduction is not out of place in view of the fact that Iowa Farms begins a series of advertisements in this issue of the Journal.

Iowa Berkshires have gained a high place for themselves all over America. The herd is a large one, there being kept at all times a herd of over 100 sows old enough to raise two litters per year. These sows are carefully selected for those qualities of type, quality, size and prolificacy, which are found in the best individuals of the Berkshire breed.

Heading this fine herd of sows are ten boars of outstanding quality. They are Rival's Iowa Baron (172535), Rival's Iowa Baron 2d (172536), Double Champion (168700), Masterpiece Rival 2d (137725), Artful Belle's Rival 3d (133678), Ames Rival 36th (176400), Baron Premier 102d (172300), Iowa Royal Champion (184349), Iowa Champion 2d (184350) and Iowa Champion Peer (184354).

The quality of Iowa Berkshires is best expressed by their 1913 show record, which it must be noted was made in those localities where the best hogs in America were exhibited for competition. The boar, Baron Premier 102d, was second at Iowa state fair; first, senior and grand champion at Nebraska state fair; first, senior and grand champion at South Dakota state fair; first, senior and grand champion at Sioux City tri-state fair; first, senior and grand champion at St. Joe tri-state fair; first and senior champion at Missouri state fair, and first, senior and grand champion at American Royal Stock Show at Kansas City.

Rival's Iowa Baron 2d was shown only at Iowa State Fair, and won first in class as junior yearling and was made senior and grand champion.

During the season Iowa Berkshires won fourteen grand championships, fifteen senior championships, two junior championships, sixty first, forty-seven seconds, fifteen thirds and three fourths.

Berkshire barrows from Iowa Farms won first in every class in which they were entered at International Chicago, 1913, and both reserve grand championships.

These performances stamp Iowa Berkshires as being among the top notchers in America. A most important point in connection with breeding stock sent out from this herd is that every animal sold is immunized against hog cholera by the combination method, giving the purchaser assurance that the valuable animals he secures will not succumb to this scourge of the hog industry.

Iowa Farms are not devoted exclusively to the breeding of Berkshire hogs, however, for they are the home also of one of the noted registered Holstein-Friesian herds of the United States, comprising around 200 head of

excellent cattle. Official test work is carried on constantly, and while no world's records have been made at Iowa, there has been a very high average production established, and the cows in the herd have been selected very carefully because of their type and ability to maintain consistent high production.

The senior herd bull is Sir Johanna Fayne, and out of the first ten of his daughters to come into milk as junior 2-year-olds, six produced over 20 pounds of butter in 7 days and three produced over 83 pounds butter in 30 days. His first daughter to reach 5 years of age made 31.31 pounds butter in 7 days and 124.89 pounds butter in 30 days.

The junior herd bull is Oak De Kol Ollie Homestead, sired by a son of the great transmitting bull Fobes Tritomia Mutual De Kol and out of a 20-pound daughter of Homestead Jr., De Kol and Oak De Kol, a 31.54 pound cow sired by De Kol Burke.

The dam of this bull is Ollie Watson Prima Donna, a 31.10-pound cow, one of whose daughters, Ollie Watson Prima Donna 2d, made 26.65 pounds butter in 7 days as a 5-year-old, and whose grand-daughter, Ollie Watson Johanna Prima Donna, made 21.44 pounds butter in 7 days as a senior yearling and 89.75 pounds butter in 30 days.

The comparative nearness to the Pacific Coast of these two great herds offers obvious advantages to prospective buyers in the coast states.

NOW.

We wish to urge most earnestly upon every reader of the Journal who raises hogs, whether purebred breeding stock or just hogs for market, that he or she become a member of California Swine Breeders' Association. The yearly dues are only \$1, and there is a great deal of work to be done in properly safeguarding and promoting the swine industry of the State. The officers and directors of the Association are all practical hog raisers, giving their time to Association work entirely without recompense, and all money paid in is expended for the common good of the industry in extending the membership of the Association. As it becomes larger and better able to exert a powerful influence for the betterment of swine raising and marketing conditions in the State, there will be need of many dollars in carrying on its work, and this money can only come in through the dollar membership dues.

It is worth while for every hog raiser who reads these lines to send in \$1 now to J. I. Thompson, State Farm, Davis, Cal. Mr. Thompson did effective work as Secretary of the Association last year, was re-elected this year, and is giving his time freely to the interests of the Association in spite of the fact that his duties in the Animal Husbandry Department at the Farm are heavy. How many Journal readers will send in the dollar NOW?

ANNUAL MEETING OF AMERICAN GUERNSEY CATTLE CLUB.

The recent annual meeting of the American Guernsey Cattle Club was held in New York City and showed a remarkable growth in the Guernsey interests.

The advance of the Guernsey in public favor has been noted many times during recent years, but the report of the work of the Herd Register for the year ending April 30th showed a remarkable gain for this year. During the last twenty years the number of Guernsey registrations and transfers has increased tenfold, and no small percentage of this is due to this last year.

The membership in the Cattle Club has increased from 131 to 591.

The American Guernsey Cattle Club is now in a very prosperous condi-

Oak Grove Berkshires

Bred For Quality

Capacity to convert feed quickly, and therefore economically, into pork of the best quality, is what has made the Berkshire the favorite hog for the Pacific Coast.

We have the blood of the greatest hogs of the breed in our herd, blood that produce profitable pigs, the kind that swell the bank account when market day comes.

Our brood sows are from the best families of the Berkshire breed, and hold their places in our breeding herd because of their size, excellent quality, and ability to farrow large litters of pigs of uniformly high type.

In ARTFUL MASTERPIECE, twice Grand Champion at California State Fair, IMPROVER B, the undefeated young boar that was first at American Royal, IOWANA MAJESTY and BRINTON'S LONGFELLOW, we have a group of sires second to none in the West.

We have been unable to meet all the demands for stock of breeding age made upon us during the past season, but at present we have a very fine lot of pigs coming on. We advise early selection as present indications point toward an increasing demand for good Berkshires this season.

We cordially invite prospective buyers to visit our herd, but if this is inconvenient an order by mail will receive careful and prompt attention.

OAK GROVE DAIRY FARM

Woodland, California

Reference: First National Bank of Woodland.

Berkshires—Guernseys

OUR BERKSHIRES are the finest in the State. At the last State Fair we entered in fourteen classes and won ten firsts.

FIVE HERD BOARS IN THE HERD. Stock of all ages for sale.

We offer for sale Bull Calves of A. R. breeding on both sides. Some of the younger ones are by DON ADONIS OF LINDA VISTA, whose dam, two grand-dams and two great-grand-dams have an average record of 714 pounds butter-fat in one year.

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Farm Located Eight Miles From Sacramento on Folsom Road.

BOARS - SOWS - PIGS



I have on hand a limited number of young Berkshire boars, a few gels, and some young pigs of both sexes. These are especially choice and of good breeding. Some are sired by RIVAL'S CRUSADER and LORD DUKE, and one or two bred here are by KENNETH LEE JR. Order early as the supply is limited.

G. A. MURPHY, Box 300, Perkins, Cal.



Nora's Best Girl (164323), 535 Pounds.

PROLIFICACY

Is desirable. Nora's Best Girl has just farrowed 14 last litter. It is not all her good points either. Is it? She has been pronounced by good judges to be the typical Berkshire Sow in California. Get one of her pigs.

J. L. GISH,

Laws, California

tion. This last year's business showed an income of \$76,448.83, with a balance on hand of \$4056.03. This, together with the invested funds, office building and invoice of fixtures and Herd Books on hand, makes a present worth of \$41,419.56.

During the year there were imported 1150 head of Guernseys, 2 bulls and 120 cows of these came from Alderney; 41 bulls, 881 cows from Guernsey; 6 bulls, 100 cows from England.

The work of the Advanced Register showed 1100 cows, owned by 193 breeders and representing twenty-seven states, were on test. The most remarkable record of the year was that of May Rilma, who made a record of 1073.41 pounds butter-fat, which exceeds that of any cow in the world. The 2957 records in the A. R. show 526 cows with a milk yield of over 10,000 pounds, and 25 over 15,000; 473 cows have butter-fat records better than 500 pounds and 11 exceed 800 pounds for the year.

The Guernsey Breeders' Journal, published by the club, has met with a very cordial reception and showed a continued gain in the subscription list for the four years it has been published. It has proven a valuable help in the club, and especially to Guernsey breeders.

Besides the Journal, the club has published and distributed a great deal of circular matter, as well as spent \$2000 in newspaper advertising. During the year the club has spent \$3205.09 for premiums at fairs, and in seeing that the club was personally represented. In this matter a great deal of good has been accomplished in placing the merits of the breed before the public.

Estimates for expenses for the coming year include, besides that necessary for the maintenance of the office and printing expenses, \$7500 for the work at the fairs and also for the representation of a herd at the Panama-Pacific Exposition.

The following officers were elected: President Emeritus, James M. Codman, Brookline, Mass.; President, James Logan Fisher, Philadelphia, Pa.; Vice-Presidents, Ex-Governor W. D. Hoard, Fort Atkinson, Wis., and Ezra Michener, Lumberville, Pa.; Secretary and Treasurer, William H. Caldwell, Peterboro, N. H.; Executive Committee, F. Lothrop Ames, North Easton, Mass., F. G. Benham, Canandaigua, N. Y., William H. Caldwell, Peterboro, N. H., James Logan Fisher, Philadelphia, Pa., E. T. Gill, Haddonfield, N. J., Charles L. Hill, Rosendale, Wis., W. W. Marsh, Waterloo, Iowa, M. T. Phillips, Pomeroy, Pa., Robert Scoville, Chapinville, Conn., S. M. Shoemaker, Eccleston, Md., Howard B. Tuttle, Naugatuck, Conn.

The evening previous to the annual meeting a Guernsey Breeders' Conference was held at which time Prof. T. L. Haecker of Minnesota gave an excellent address on "The Relation of Food Product to Milk Production," and Captain Cassatt told of the wonderful work of May Rilma. This proved a very pleasant and interesting occasion to the many breeders who were present. WM. H. CALDWELL, Sec'y.

LOSS OF STOCK ENORMOUS.

That at least one-twentieth of all the stock bred on the open range of the West dies before it reaches market age, and that much of this loss can be stopped is shown by results reported from the national forests. This waste is said to add millions of dollars to the people's meat bill, and gives one more cause of the high cost of living. Winter storms and summer droughts strew the ranges with the bones of cattle and sheep; predatory animals take a heavy toll; poisonous plants sometimes kill half the animals in a herd almost over night. Cattle

contract anthrax, blackleg and other diseases, get stuck in bog holes, slip off icy hillsides; and sheep pile up and die of suffocation. Insects which madden and kill swell the total losses as do a multitude of other minor causes of death and injury.

How Disease Is Prevented.

If any of the animals to be grazed upon a national forest seem to be suffering from disease the stock is subjected to a rigid inspection by the Federal Bureau of Animal Industry before it is allowed to enter the forest. If an animal grazing on the forest develops suspicious symptoms the permittee is requested to remove it. The carcasses of animals dying from infectious or communicable diseases must be buried or burned, preferably the latter. To protect their stock against blackleg permittees are encouraged to use vaccine furnished free by the Department of agriculture. Sheep suffering from scab or from lip and leg disease are barred from the forests until they have been treated in conformity with the requirements of the Bureau of Animal Industry. This co-operation between the two bureaus has made it possible to keep the forest ranges remarkably free from all forms of stock disease.

Stock Killed by Wild Beasts.

The settlement and development of the West does not appear to have greatly reduced the number of animals which prey upon domestic live stock, and the loss from that source alone runs into the millions of dollars each year. Within the forests, however, the number of domestic animals killed has been appreciable reduced by the campaign against wild animals waged by the officers of the service. During the past eight years forest officers have killed over thirty-five thousand predatory animals, consisting of coyotes, wolves, bear, mountain lion, wild cats, lynx, etc.

The losses due to poisonous plants have been in the aggregate the most numerous and the most difficult to guard against. Stockmen knew generally that certain flats or valleys or hillside slopes could not be used for grazing without heavy losses of stock, but there was much doubt as to what caused the loss. Gradually it was determined that the losses were due to various species of plants. Later it was learned that in most instances these plants, while extremely poisonous during certain periods of the year, were comparatively innocuous during the remainder of the grazing season. The forest officers determined the various plant species which cause death or injury to live stock, the periods during which each species is dangerous, and the areas of forest land upon which the plants are sufficiently abundant to cause losses of stock. The next step was to devise ways and means of preventing the losses. Where definite information is obtainable the outer limits of the poison areas are marked by warning placards which give the name of the poison plant, the kind of stock to which it is injurious and the period during which it is most harmful. With this warning, stockmen are enabled to so handle their stock as to prevent the occupancy of the poison area during its danger period. In cases where the areas of poisonous plants are comparatively small the permittees have been encouraged to fence them, material for fence construction being furnished free of charge by the forest service. The result of this work has been to reduce the number of animals lost through poisonous plants as compared to the numbers lost several years previously. **Losses From Poison Unpreventable.**

Notwithstanding all precautions which may be taken against stock poisoning, losses from this source must be expected. During the past several years the Bureau of Plant Industry has been making a study of poisonous plants and of antidotes. In the case

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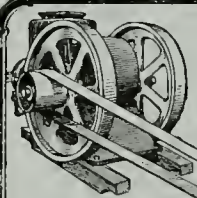
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U. S. Government Poisoned Barley New Formula. \$8.50 for 100-lb. drum.
The old formula improved.
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of larkspur, for example, the Bureau has determined methods of treatment which are reasonably successful under normal conditions. The only difficulty has been that the animals suffering from poison are generally out upon the open range and may not be observed by their owner until it is too late to apply an antidote. The forest service has, therefore, arranged to meet this situation in an experimental way by equipping a limited number of rangers with hypodermic syringes and the necessary chemicals. Armed with this equipment a forest officer can in a few moments administer a treatment which may save a \$40 steer.

VACCINATE THE SMALL PIGS

At this season of the year when young pigs are appearing on the farm, the farmer may be in doubt as to whether or not to have them vaccinated and when to have it done. While running with an immune sow it is unnecessary to have them vaccinated, but at the time of weaning they may safely be treated. This is the most profitable time to vaccinate, because of the smallness of pig, thus taking less serum, they are more easily handled, with less danger of injury to themselves and at this age they are more susceptible to the disease.

It is not advisable to vaccinate pregnant sows after the first month of pregnancy. Before this time they should be handled very carefully, as more cases of abortion are caused by rough handling than by the vaccination.

In all cases where there is no infection in the herd the simultaneous method should be used because of its lasting effects. Where infection has occurred the serum only should be used.

Before vaccinating the herd they should be kept from feed for about twelve hours. Put them in a small, comfortable pen where they may be handled without any unnecessary trouble. Never under-estimate the weights of the hogs. It is better to over-estimate them as it is possible to give too small a dose of serum to be effective, but impossible to give one too large. After vaccination they may be turned into a clean, dry lot without wallows, or into a bluegrass pasture. Do not allow them to wade in water, tall weeds or grass. Care on the part of the farmer will prevent many losses from septicemia or blood poison.

Feed them lightly at first on a light, easily digested ration consisting mostly of ground grain slops. This may be gradually increased for about a week or ten days to the regular ration.

If the pens are infected and hogs sick, isolate the sick ones and burn those that have died. Do not allow the same attendant to care for both the sick and well hogs. Vaccinate those having a normal temperature and apparently healthy, but use a slight increase over the usual dose of serum. Do not use virus in these cases. After the outbreak has passed over, clean up and burn all rubbish in the yards. If the pens are small, sprinkle them liberally with lime, but if large they should be plowed and seeded for a few seasons. Spray the fences and outbuildings with white-wash or cresol and spray the hogs and troughs with cresol.

Vaccinate the whole herd and then vaccinate the young pigs as they get old enough, and in this way you will always have a herd of immune hogs.

J. H. COFFMAN,

Veterinarian at Hog Cholera Plant, Idaho.

SUN CAUSES BIGHEAD.

The serious sheep disease known as "bighead," which has caused losses in Utah, Idaho, Nevada and Wyoming, is caused by sun and heat rather than locality, according to Dr.



PILLING CATTLE CASE No. 3.

Containing \$4.00 Garget Outfit, \$3.00 Milk Fever Outfit and 12 other Cattle Instruments needed by every dairyman, complete in case, \$15.00; regular value, \$21.00. Sent prepaid with full "Easy to Use" directions on receipt of \$15.00.

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A small investment in these "Easy to Use" instruments eliminates the necessity of calling a veterinarian in many cases. They soon pay for themselves, besides saving the lives of valuable animals when a few moments' or hours' delay is fatal.

Pilling Cattle Instruments are the result of 100 years' experience in manufacturing "honest quality" instruments and remedies. They are used and endorsed by leading live stock raisers and prominent milk producers in all parts of the country.

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PILLING CATTLE CASE No. 2.

Containing \$3.00 milk fever outfit and eight other cattle instruments needed by every dairyman, complete in case, \$10.00; regular value \$15.00. Sent prepaid with full "Easy to Use" directions on receipt of \$10.00.

Look for the name "Pilling" on all cattle instruments. It's the mark of quality and reliability.



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H. J. Frederick, veterinarian of the Utah Experiment Station, who has been investigating the disease in co-operation with the U. S. Department of Agriculture. Many herders claim that by avoiding certain spots noted for the contraction of the disease, they may avoid the disease. Investigations now seem to have proved that if sheep are not driven too long nor too fast during the heat of the day none of them will contract bighead, no matter what trail they are following.

This disease does not seem to be transmissible to other sheep and other animals do not contract it. It is seldom seen in young lambs. If the affection is only slight the animal may recover. Most sheep, however, do not recover once they have taken the disease.

The disease is characterized by a sudden swelling of the head and ears. The swelled portions of the head become filled with a straw-colored serum that often drips from the parts. The swelling is often so severe that the animal's vision is clouded. The affected tissues present an appearance like gelatin.

The affection causes the animal to be extremely restless. It will walk about aimlessly until exhausted. The skin often peels off the swelled portions. Many animals lose the wool from the entire body. Many of the ewes that carry lambs lose them. The few that do recover are never so good as formerly.

Preventives and Treatment Recommended.

The definite cause of "bighead" is not positively known. It seems, however, that climatic conditions have much to do with it. Sheep are usually affected during the spring and early summer while being driven from the winter to the summer ranges, more commonly before shearing. Bighead seems most prevalent after a cold or stormy night, when the day following turns hot with sunshine and the sheep are driven fast in the hot sun, and where they are compelled to inhale considerable alkali dust. Care in driving sheep during the hot part of the day, particularly after a cold night or storm is the greatest preventive for the disease.

Again if some of the animals that contracted this condition are dropped out of the herd, or the entire herd is stopped and allowed to get in the shade, the affection may be avoided or overcome. If sheep are held immediately after they show symptoms of this trouble, the affection is usually overcome in from eight to twenty hours, the animals appearing as well as at any time; while on the other hand, if they are driven fast during the hot part of the day, many contract the trouble and succumb as a result.

For the swelling of the head such agents as sugar of lead and alum have been used with some success. The substance doing the animals most good were emollient applied

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with the TYPE, CONFORMATION, CAPACITY, BREEDING and A. R. O. backing to make them producers. INDIVIDUALITY and PERFORMANCE, as well as breeding, constitute our basis of judgment of animals. Not only must they be bred in producing lines, but they must be producers themselves, having the capacity for work, and the vigor, and strength, and constitution which go to make them business animals.

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ONE HUNDRED choice sows, bred to the following boars, have farrowed pigs during the months of March, April and May. These sires are of outstanding merit as individuals, (CHOLERA IMMUNE) and represent the very best in Berkshire blood lines: Rival's Iowana Baron (172535), Baron Premier 102d (172300), Masterpiece Rival 2d (137725), Ames' Rival 36th (176400), Double Champion (168700), Rival's Iowana Baron 2d (172536), Artful Belle's Rival 3d (133678).

The sows are equal in breeding and quality to the boars, and these matings have brought pigs that are of the best in Berkshire type and characteristics.

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I have for sale pigs of both sexes sired by my boar, Great Prospect (57949) out of sows sired by A. Wonder. For prices write or call.

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to the head, as vaseline and olive oil. Whenever bighead sheep not too seriously affected had absolute rest and some protection from the direct rays of the sun and their heads were smeared with emollients, they made a complete recovery in a short time. Sheep with swelled heads should have their heads anointed with olive oil or vaseline and kept quiet from 12 to 24 hours.

Sheep should be moved only during cooler parts of the day.

Sheepmen should not become excited when bighead develops among their flocks and force their herders

to rush their sheep over the ground as they do where poisonous plants exist, as there is no particular place for bighead to develop.

Keep cool and keep the animals cool as far as possible, and many losses can be prevented.

The practice of scarifying or cutting upon the swelling is not advised, although many shepherds do this when their sheep are affected. This practice merely exposes the parts to infection, and dust and dirt get into the animal's death, irrespective of the bighead.



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THE DAIRY

The Increased Cost of Good Milk

(Written for The Live Stock and Dairy Journal by H. T. Morgan.)

Much diversity of opinion exists as to what constitutes a good grade of market milk. The town dweller who has read some of the literature sent out by the certified dairies is likely to have set up a standard which the ordinary dairymen finds difficulty in measuring up with. There are some features about the production of certified milk, however, which are likely to be changed, as I am convinced that the "certified" cow is being handled under conditions which will render the production of an almost "germless" milk possible, certainly do not make for the best physical condition of the animal. Few cows in certified plants are allowed one-fourth the amount of exercise which should be indulged in a healthy cow, and while certified stables are kept scrupulously clean, owing to the excessive use of water in rendering them so, are almost invariably damp. These two causes probably will account for the fact that few certified milk plans have found it practicable to use purebred cattle in their operations, and expect at the same time to obtain a profit from them as breeders.

Good market milk may be produced on any farm, but it costs more to produce than "just milk." Broadly speaking, milk is good or bad, in proportion to the number of bacteria it contains. To reduce the bacterial count, more careful measures must be adopted. Since certified plants are comparatively few in number, and almost wholly confined to districts easily accessible to the larger cities, we will not consider them further in this article.

The farmer or dairymen who wishes to produce milk for market purposes, and who expects to build up a permanent business will do well to consider the fact that it costs more today to produce even a fairly good grade of milk than was the cost a few years ago. Lands have greatly advanced in price during the past decade. It costs more to secure good men than was formerly the case, and none but careful, cleanly and honest men should be employed about the dairy. Feeds of all kinds have advanced in price, as have also milch cows. Building materials are higher, and there is not a single item (outside of two essentials) in the equipment and conduct of the dairy but have increased in cost dur-

ing the past few years. The two exceptions noted are sunshine and water. Perhaps this should be reduced to the single item of sunshine, as water has increased in cost, since we must use large quantities of it hot if the pails, cans, bottles and all utensils are properly sterilized.

It is not my thought to attempt to lay down a set of rules for the production of good milk. There are, however, a few suggestions which will bear repeating any number of times, since each is very essential to the production of a grade of milk which will insure to the farmer any degree of permanency in his business. The barn and cow must be kept clean. Dust is probably the most potent means of contaminating the milk, and a system of feeding should be put into operation which will minimize the creating of dust during the milking hours. I have frequently seen in a large dairy a man with a broom sweeping the feed alley during milking hours, while perhaps in another part of the barn a man may be grooming a cow. This I have seen in a dairy about which much has been written as to its sanitary arrangements and the high quality of its product. In the matter of bedding, it is essential that it be reasonably free from dust and mould for obvious reasons. Clipping the cow's udder is an excellent practice, and should be more generally followed. The udder should be wiped with a damp cloth and immediately dried just before milking.

Employ only "dry" milkers. In many of the foreign countries the practice of wetting the hands with milk during the milking process is generally followed, and in the event that you employ a foreigner in the dairy you are likely to have to correct this practice.

The use of a hooded or small topped pail will be helpful in keeping dust and hairs out of the milk. While the small topped pail is perhaps not quite as convenient to use as the open style, they are essential and no other kind should have a place in the dairy. Milk should be cooled as quickly as possible after milking. It is the practice in some small dairies to strain the milk as soon as possible into sterilized bottles, cap them and place immediately in ice water. This is an excel-



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At 1912 Oregon State Fair won every first prize but two, and all Champion and Grand Champion prizes.

At 1912 California State Fair won all first prizes but two, both Gold Medals and all Championships but one.

I have Young Stock of the finest quality for sale.

Write for circular and prices.

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MESA, ARIZONA.



Echo 2d's Orchard Daisy
Grand Champion Female 1912 Oregon,
California and Arizona State Fairs.

lent practice, and tends to keep the bacterial count unusually low. Bacteria does not multiply rapidly in low temperature. The aerator is an excellent means of cooling milk quickly, but it is not always used properly. Very often an aerator is placed in the barn or other place where it is exposed to dust, and in such case it were better not to be used. An aerator is hard to wash and sterilize on account of its size, and in no less than one-half of the dairies of the country they are a source of contamination rather than otherwise. One prime factor in producing good milk is in handling it in as few vessels as possible—a factor which is but seldom observed. Clean milk if kept below 50 degrees F, if cooled to that temperature immediately after it is taken from the cow, will keep sweet and wholesome three days or more. This is a fact that a whole lot of town people ought to know. In fact, there are a lot of things which the consumer ought to be made acquainted with as to the production and preservation of good milk. It would give him a better appreciation of what is due the producer in compensating him for his honest efforts and the care he uses in delivering to the customer a good grade of milk. The dairyman who observes cleanliness in all departments of his operations, and who invites the confidence of his customers in that his dairy and stables are at all times open for their inspection is entitled to a better price for his milk than the dairyman who is indifferent to these matters. If a dairyman is running a plant on the right basis it is but "good business" to let people know about it. A customer has the right to know what sort of a place

in force some law which will be equitable to both the producer and consumer, but the problem of supplying the city with good milk has as yet not been solved. The producer in the district which supplies Chicago milk companies receive not to exceed 4 cents a quart for milk delivered to the companies' receiving stations, which are scattered for a distance of 100 miles both north and west from Chicago. Milk retails in Chicago at 8 cents a quart, and the producer says he is not getting enough for his product; that the milk distributing companies are getting all the profits. Too many farmers and dairymen that are producing market milk do not know what it costs to produce it. A large percentage of the producers take no account of the labor involved, and merely charge the cow with the purchased feed that she has consumed, and crediting her with her year's yield of milk, marks the difference down as profit. There are a lot of items which enter into the cost of production which should be considered. Interest on the amount invested in, or the value of, the cow. She should be charged with her proportionate share of the amount invested in the barn which shelters her; for her share in the dairy equipment and for depreciation. Another charge against the cow is her proportionate share of the cost of the bull and interest on that amount annually. Insurance must also be considered; taxes must be paid; ice, medicines and an occasional veterinary bill must be paid. Of course, the feed and labor items will be the two heaviest charges against the cow. Every item in the charge account against the cow has advanced in price more rapidly than has the price of milk to the consumer. The whole problem, then, resolves itself into one of securing good cows and then working them up to their safe capacity.

IS THERE MONEY IN DAIRYING FOR YOU?

There is, and here is the answer: Co-operate with your neighbors in the ownership of a Babcock testing outfit. Weigh the milk of each cow at each milking and test once a week. This will enable you to brand the cow or cows which are not paying for their place in your herd.

Dispose of the cow or cows which have failed at the end of the year to pay what the best market would give you for her feed.

From those which have returned most in the production of milk and butter-fat, raise heifer calves; feed them liberally, and milk them regularly.

Breed these heifers at the age of 15 to 20 months to purebred dairy sires from cows whose records show large and profitable productions of milk and butter-fat.

Feed one pound of grain daily for every pound of fat produced weekly, and with this 30 to 35 pounds of good clean corn silage and all the clover or alfalfa hay they will clean up.

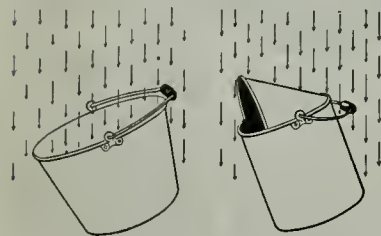
Keep these cows in clean, light stables, with plenty of fresh air. If possible brush the cows each day, for it pays better than does the grooming of your horses.

Water your herd two or three times daily, and if the water has ice in it warm it up with a tank stove.

Do not expose your sensitive dairy types to cold, stormy weather. Allow your cows two months' rest between lactation periods.

Obtain bulletins and literature from your Agricultural College or the Government Department of Agriculture and keep posted on the best and most modern methods of managing your dairy herd. ROBERT A. LAMSON,

Assistant in Dairying, Idaho Experiment Station.



Effect of covered pail (Stadtmueller) in stable where considerable care is exercised.

Average number of bacteria in open pail.

4,240

Average number of bacteria in covered pail.

6,430

Average number of bacteria excluded by cover.

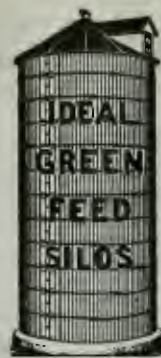
33,914

Stocking

the dairyman is running. To my mind it should be just as interesting and important for the housewife to know the sanitary conditions existing in her milkman's dairy as to know the condition under which her own kitchen is conducted.

In all the foregoing I have considered only dairies in which tuberculin-free cows are kept. There yet exists in certain sections of the country an indifference in regard to the matter of testing cows for tuberculosis. Medical authorities now agree that a large percentage of tuberculosis among children under the age of 5 years is caused by the use of milk from diseased cattle. The "test" frequently causes the dairyman a heavy loss in having to destroy a valuable cow, but he cannot afford to keep such cattle in his herd, and disposing of them is but another means of advertising his purpose to produce good milk.

The municipal laws governing the sale of milk in large cities are, of course, intended to safeguard the public against the delivery of poor milk. In many instances these laws fail of their purpose because of the incompetence of the men selected to enforce them. Petty politics too frequently govern the appointment of milk and dairy inspectors employed by the cities. Chicago has been trying for years to put



Ideal Green Feed Silos

A few of the many prominent users who have recently purchased Ideal Green Feed Silos.

U. S. Dept. of Agriculture, Glenwood, Hawaii.

University of California, Davis, Cal.

Ambrosia Cream Co., Napa, Cal.

G. W. Dimmick, Santa Rosa, Cal.

W. B. Atterbury, Crows Ldg., Cal.

Bedell Land and Stock Co., Dos Palos, Cal.

Newman Bros., Elk Grove, Cal.

E. F. Sanguinetti, Yuma, Ariz.

Arnold W. Dado, Petaluma, Cal.

B. F. Anderson, Modesto, Cal.

L. W. Hutchins, Turlock, Cal.

B. Cassou & Co., Coyote, Cal.

Exeter Lumber Co., Exeter, Cal.

T. J. Durnall, French Camp, Cal.

J. A. Henry, Modesto, Cal.

Geo. A. Cressey, Modesto, Cal.

O. H. Roberts, Turlock, Cal.

E. F. Young, Modesto, Cal.

The intending purchaser of a Silo will make no mistake in following the example of the above list.

Plant corn now and have it ready to fill your Silo this fall, insuring yourself against the high price of feed this winter.

Write for Silo Folder D for full information.

De Laval Dairy Supply Co.

101 Drumm Street
SAN FRANCISCO

1016 Western Avenue
SEATTLE

Ensilage Cutters and Alpha Gasoline Engines.

Run Your Car Economically

Many engine troubles and the resulting delays and repair costs can be avoided by the use of a suitable lubricating oil. True economy lies in the use of a high grade oil which gives perfect lubrication and assists the engine to do its work regularly and efficiently.

ZEROLENE

THE STANDARD OIL
FOR MOTOR CARS

is the **best auto oil the Standard Oil Company can make**; produced by experts and proved by successful service in thousands of cars of all types. Its perfect lubrication keeps the motor cool—allows it to deliver full power and cuts repair charges to a minimum.

Dealers everywhere. Ask our nearest agency about delivery in bulk.

Standard Oil Company
(CALIFORNIA)



BREEDING JERSEY HEIFERS BACK TO SIRE

The Live Stock and Dairy Journal—I have some heifers sired by a Jersey bull. Can you tell me what result I should expect to have if these heifers are bred to the same Jersey bull?—M. J., Tuolumne County, Cal.

In-breeding or line breeding is a very delicate operation, the success of which depends very largely upon the individuals in question. Some of the greatest animals of the Jersey and other breeds are the result of line breeding, but the matings were directed by breeders who had a thorough knowledge of the blood in their animals and a fine sense of selection. In your case we judge that the heifers are out of grade cows, and that the bull is a registered purebred. If the heifers are strong, vigorous and growthy it will probably do no harm to breed them back to their sire. If, however, the heifers are inclined to be particularly small and fine, and if the bull also is inclined to be that way also, you may expect to get small calves with not much constitution. It seems to be a matter of your own judgment as to whether the vigor and constitution of both bull and heifers seems to warrant their mating, as their relationship might intensify, in their offspring, any weakness already apparent in the parents.

VARIATIONS IN CREAM FAT TESTS

Why does the percentage fat in your cream vary, Mr. Farmer? It seriously affects your cream check, when the test drops 4 or 5 per cent. The reasons for these variations you shall know, and control of them becomes part of your business. The more important cause of variation follow, with suggestions for their control.

1. If you use the gravity system it is impossible to skim the cream or to draw off the skim milk at the bottom of the can in exactly the same manner each day, and so the test will vary.

2. With the separator your fat percentage will vary because:

(a) The percentage of fat in the milk varies with the seasons, change of milker or time of milking, with excitement of the cows.

(b) The temperature of the milk varies. The warmer the milk the more fluid it becomes, and hence the easier to separate the fat globules from the serum. Have your milk at 90 degrees to 93 degrees F., which is the temperature of the milk fresh from the cow.

(c) The separator is not balanced. Level the bowl exactly. If the bowl does not run smoothly it will hinder the skim milk and cream from finding their respective outlets, some of the skim milk mixing with the cream, and the result will be uncertain.

(d) The speed of your separator is not right or constant. Time the crank

with a watch and turn it the number of revolutions called for in the directions. The slower the speed the thinner the cream and more fat will appear in the skim milk. Do not run too fast, as you may damage the bowl or spindle.

(e) The amount of water or skim milk for flushing varies. Do not use too much. Turn off the intake valve when the cream discharge appears watery. ROBERT A. LAMSON, Dairy Department, University of Idaho.

SOUR SKIM MILK FOR CALVES

That in summer time calves do as well on sour skim milk as they do on sweet will be interesting news to many farmers who have hitherto been kept from raising calves by the expense of keeping the milk sweet in hot weather. This expense, experiments carried out by the Department indicate to be quite unnecessary. The calves will make as rapid gains on sour skim milk. In winter, it is true, this is not quite so satisfactory. It chills the calves, and some of them drink it with great reluctance. Very young calves have even been known to refuse it altogether. On the other hand, of course, it is much easier to keep the milk sweet in winter.

In calling the attention of farmers to these facts, however, the Department at the same time emphasizes an important precaution. Unless the milk is produced and kept under cleanly conditions, it may become contaminated with disease-producing bacteria. Farmers should, therefore, allow the milk to sour quickly and then feed it without delay.

In the course of these experiments sour milk was fed to 22 calves, Holsteins, Jerseys and Guernseys, at different seasons of the year. In no case did it cause digestive disturbances, even when the change from sweet to sour milk was more abruptly when the calves were only a few days old. Moreover no evil results followed the alternate use of sweet and sour. It seems, therefore, that the common idea that sour milk leads to scours is quite unfounded.

The calves, it was found, did not like the sour milk as well as the sweet, but in the majority of cases soon became accustomed to it. The aversion, however, increased when the milk was fed them at a low temperature.

NATIONAL DAIRY SHOW, 1914

In making the first announcement of the 1914 National Dairy Show we will advise that the dates of the show are October 22d to October 31st, inclusive, and then briefly outline a few matters of interest to the cattle breeders.

The Holstein Association is putting up special purses amounting to \$1500 for this great breed of cattle. The Jersey Cattle Club at their meeting May 6th decided to increase their special prizes to \$1000 for their favorites. The Guernsey Club, taking similar action at their meeting May 16th, raised specials for their breed up to \$1000. This makes for these three breeds of cattle a possible winning in cash of nearly \$9000; justifiable expense money for the cost of maintaining a show herd, but from the viewpoint of what the show yard does for a breed, small enough compared by the number of breeders devoting time and cattle to the upbuilding of their favorites with those who get the benefit of the good done at fairs and shows for a breed. Apart, however, from the cash money received for this most valuable advertising work, the breeders who do come to the National with cattle of sufficient quality and condition to enable them to carry home with them the ribbons awarded at this the closing show of the year, carry away with them that which has more lasting value and more real immediate value than all of the money awarded.

Housewives —Mothers Are Demanding These Sure Protection Caps and Seals

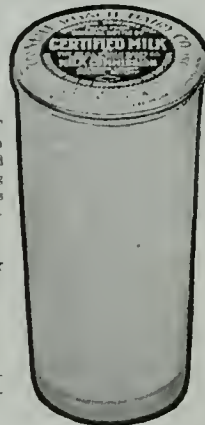
We Will Gladly Send
SAMPLES FREE

Standard Cap & Seal Co.
341 Wells St.
CHICAGO, ILL.

Our 8-oz. No. 5-T Milk Glass with Standard Cap and Seal. Something new Milk comes straight to table—

No Chance for Contamination or Adulteration on the Way.

Labeled cap provides excellent advertisement.



No. 4-M Special Milk Bottle with Standard Cap and Seal. Note the neat appearance. Bottle has an inner cap seal. Cannot be refilled and capped with discs.

The most progressive dairymen everywhere are adopting Standard Caps and Seals. Their use is strongly recommended by the San Francisco Co. Medical Milk Commission, Seattle Medical Milk

Shrewd dairymen are heeding the insistent demand for protected milk. They are turning the demand to their profit. They are capping their bottles with the caps that protect

STANDARD CAPS AND SEALS

Assure Absolute Protection for Milk

Such protection as no other caps or seals or discs ever can give. Such protection that will prove a splendid advertisement for your product.

Standard Caps absolutely prevent contamination of the pouring lip of bottle by dirty hands, impure ice, cats or dogs. Prevent all chance of sly meddling by dishonest drivers.

Justifying Higher Milk Prices

Mothers in particular, willingly pay more for completely protected milk. Standard Caps on your bottles vouch for your extreme care for the purity of your product. They also add tremendously to the attractiveness of the milk package. Their presence on your milk bottles builds up a bigger demand among discriminating people.



Ordinary Common Sense Bottle with Standard Cap. Caps are made of heavy, paraffined, waterproof paper formed into cup shape and are tightly clutched to bottle with crimped rings.

Commission, Alameda Co. Medical Milk Commission and all milk commissions everywhere.

The progressive dairymen of every section are recognizing the advantage—the profit—to be gained by adopting Standard Caps and Seals. Write for list of dairies everywhere in your section—in California, Washington and Oregon—who are using Standard Caps and Seals. Get samples of our caps, seals and bottles.

BUY THIS ONE

A 12 months old registered Jersey Bull out of Glenwood Marian 2d, a daughter of Glenwood Marian with a R. M. record of 512 pounds butter-fat, she being sired by Imp. Flying Steed. This young bull is sired by Gertie's Son, is solid color, with a little white in switch. This is an opportunity to secure producing blood at an ordinary price.

PRICE \$125.
C. G. MCFARLAND, Prop.
WILLOWWOOD JERSEY FARM,
R 2, TULAER, CAL.

JERSEY TYPE

We have a few handsome, vigorous young bulls out of our best cows and sired by MERRY MAIDEN'S CONQUEST, a son of MERRY MAIDEN'S 3D SON, Grand Champion Jersey bull at St. Louis Exposition.

By owning one of these bulls you can introduce into your herd the blood of one of the best bulls of the breed.

Come and see our herd or write your needs. Prompt attention to correspondence.

B. & F. RANCH, F. O. FRAZIER, COVINA, CAL.

JERSEY QUALITY

CHEAP FEED

Is not much help to the scrub dairy cow when the price of butter-fat is down. The scrub cow can not yield a profit when prices of feed and butter-fat are high, and she is in even a worse fix when prices are low. At the present time butter-fat prices have not declined in the same proportion that the prices of feed have declined, and the dairyman who owns good cows is in position to keep on making profits. The only way to get good cows is through the use of good purebred bulls.

Our herd of Registered Jersey Cows have produced profitably regardless of the prices of feed and butter-fat over a period of years. Out of some of our best cows and sired by our herd bulls, IMP. KING'S VALET and BORELLO'S GOLDEN LADDIE, we offer a choice selection of Young Bulls. These are the kind that sire GOOD cows.

Come and see our herd if possible. If not convenient to visit us, write us your needs. Mail orders are handled promptly and receive careful attention.

N. H. LOCKE CO., Lockeford, California
NO FEMALES FOR SALE AT PRESENT

It is the purpose to make of this show the annual "round up" of the herds that have shown in the various circuits of this enormous country where judges of National and International reputation may pass upon them and

send the cattle to their home farms for the season in such accredited form as will establish forever a National roll of merit for the winners. Let no man who is desirous of breeding on lines best calculated to improve and main-

JERSEY BULL

I offer a Choice, Young, Registered Bull, backed by most approved breeding and production. This is an opportunity to get a good one. He should go to head a pure-bred herd.

S. F. WILLIAMS

CHICO, CALIFORNIA.

VENADERA HERD

of Registered

JERSEYS

Guy H. Miller, Prop.

MODESTO CALIFORNIA

Rancho Santa Marguerita Registered Jerseys

OFFICIALLY TESTED

D. F. CONANT

R5, Box 64 Modesto, Cal.

tain the standing of his breed be at all timid about leading his cattle into the National ring, as comparison is the only safe and sure method to arrive at certain knowledge of whether you are drifting, and you can never accomplish anything by staying at home.

DIRECTIONS FOR SHIPPING MILK TO MARKET IN ORDER TO REDUCE BACTERIA.

With the approach of hot weather the U. S. Department of Agriculture is warning dairymen again not to hold their milk before shipping it to market. A practice prevalent in some places is to take the morning milk, combine it with the afternoon milk of the same day and ship this combination early the following morning. This means that the morning milk is kept through the heat of the day. When it reaches the consumer, twenty-four hours or more old, the bacteriological count is high. This explains, the department experts say, why milk from dairies in which all the conditions appear to be excellent is frequently found to be bacteriologically bad.

The remedy recommended by the department is to hold the afternoon milk, properly cooled, through the cooler hours of the night and ship it the next morning with the morning milk, also properly cooled, without mixing the two. It is, of course, essential to this plan that the train schedules be adapted to it, but it is felt that when the importance of the change is fully recognized and handling would materially reduce the possibility of sour milk reaching the markets.

Shippers are also urged by the department to see that the milk is thoroughly cooled, as an important step in keeping its bacteriological count low.

HOLSTEIN-FRIESIAN ASSOCIATION OF AMERICA MEETS.

Up to the time of going to press the Journal was able to secure only a partial report of the annual meeting of Holstein-Friesian Association of America held at Chicago.

Secretary Houghton's report of his twentieth year of service presented interesting figures showing the extent of the work done in his office; 105,319 communications have been received; 36,000 entries made in cash books; 119,289 certificates issued (25,693 in excess of previous year); receipts were \$161,506.52, expenditures \$62,177, with balance to treasurer of \$99,329.52; and a growth in membership of 1107.

The report of the Committee on Reincorporation and Redraft of By-Laws (Messrs. O. U. Kellogg, D. D. Aitken, F. F. Field and A. L. Brockway) was given by Chairman Kellogg and was accepted without debate.

The report of the Literary Committee (F. L. Houghton, Chairman; W. A. Matteson, M. H. Gardner, F. F. Field) contained interesting data. It showed that during the past five years the volume of registration of Holstein cattle has almost tripled, while their average value, as shown by average prices at auction, has increased nearly \$100 per head, or within \$6 per head of double their value in 1909. The appropriation for this committee was \$17,500 the past year; 15,000 in 1912 and 1911; and \$10,000 in 1910 and 1909.

The Committee on Prizes at Fair (F. L. Houghton, Chairman; W. B. Barney, E. A. Powell, John L. Smith, F. F. Field, W. J. Gillett, John B. Irwin) reported the expenditure of \$5500 for the season of 1913. Prizes were offered in thirty-five states at fifty-two fairs and expositions and the total amount awarded absorbed the appropriation within \$84.74. Silver cups were also offered, and sometimes cash, at state fairs where prizes were offered for dairy products, where exhibits were made from the milk registered Holsteins. The committee recommended

that special committees having in charge the making of classifications should see that part of the special prize money is offered for dairy products rather than for exhibits of cattle alone. The winning of prizes for milk, butter and cheese in open competition with other breeds is desirable, for further establishing the general supremacy of Holstein cattle.

The appropriations made for the year include \$7500 for special prizes at fairs and dairy shows; \$15,000 for prizes for records made under the Advanced Registry system; \$25,000 for the work of the Literary Committee; the \$400 scholarship for the Students' Judging Contest at the National Dairy Show was renewed for 1915, and \$5000 was voted for representation at the Panama-Pacific Exposition.

The following officers were elected for the coming year: President, D. D. Aitken, Flint, Mich.; Vice-President, Dr. Henry Baird Favill, Chicago; Treasurer, Wing R. Smith, Syracuse, N. Y.; Superintendent of Advanced Registry, Malcolm H. Gardner, Delavan, Wis.; Secretary, Frederick L. Houghton, Brattleboro, Vt. The Directors are: A. A. Cortelyou, Somerville, N. J.; John B. Irwin, Minneapolis, Minn.; W. A. Matteson, Utica, N. Y.; G. A. Dimock, Kalamazoo, Mich.; W. B. Barney, Des Moines, Ia.; F. F. Field, Brockton, Mass.; W. W. Stevens, Liverpool, N. Y.; John G. Voss, Elkhorn, Wis.; and A. L. Brockway, Syracuse, N. Y.

The next annual meeting will be held in Syracuse, N. Y., the first Wednesday in June, 1915.

"LINDEN GROVE" AGAIN "SETS THE PACE"

Mr. Cooper's Auction Draws Impressive Attendance—Thirty-One Females Average Over \$1000.

		Average
2 bulls 2 yrs. and over..	\$1,095	\$365.00
10 bulls 1 and under 2 ..	2,115	211.50
10 bull calves	2,265	226.50
56 cows 4 yrs. and over..	35,700	637.50
10 cows 3 and under 4 ..	8,130	508.12
15 2 yr. old cows and bred heifers	7,270	484.66
8 yearlings not bred....	2,615	324.37
10 heifer calves	2,885	288.50

128 head brought.....\$62,075 \$484.95

Drawn by the "Linden Grove" magnet Jersey enthusiasts of every degree assembled at Coopersburg, Pa., on the occasion of T. S. Cooper & Sons' annual Decoration Day auction. The result was a most successful sale. As summarized at the head of this column, 128 animals realized a total of \$62,075, or an average of \$484.95. Last year with the same number, the average was \$466.64. This was the fifteenth successive annual auction of imported Jerseys, resumed by the Coopers in 1900 after a lapse of fifteen years. In these fifteen auctions they have sold a total of \$952,980 worth of Jerseys (1869 head), at an average of \$509.35.—The Jersey Bulletin.

X. Carrithers of Tulare, Cal., has sold his ranch and entire herd of registered Jerseys. We are sorry to have Mr. Carrithers drop out of the breeding business even temporarily, as we need a lot of men like him in California.



SEND FOR SAMPLE COPY

Of the swine journal read by hog breeders of every state. Valuable articles on care and management of swine written by practical hog men. The only paper published exclusively for the Chester White, O. I. C., breed of swine, being its official paper. A profitable investment for any hog raiser; 50c per year or three years \$1.

Address, White Breeders' Companion
Rochester, Indiana

The Great Dairying Section

Dairyland FARMS

You Have 10 Years To Pay

Dairyland Farms are right in the center of the great alfalfa and dairying belt of the San Joaquin.

This narrow strip of territory down the San Joaquin Valley brought the highest prices last season for butter-fat, and is leading again this year.

Rich soil and ABUNDANT WATER is the reason.

All the water your alfalfa requires is yours at Dairyland—a pure, soft, warm water—when you want it—where you want it—by ARTESIAN WELL or SHALLOW WELL and PUMP.

There are some 40 artesian wells now flowing at Dairyland—some of them delivering 250,000 gallons a day.

Dairyland is the great Chowchilla Rancho subdivided into small farms and selling for around \$100 an acre, with ten years to pay.

This well in the picture is on the property of A. H. Coates, a farmer at Dairyland. At a depth of 230 feet an artesian flow was struck, which has a most wonderful pressure. Over 17 feet of easing was placed above the ground to avoid unnecessary flow, but still some water comes over the top. Mr. Coates has but to turn a stop-valve to irrigate his entire farm of 80 acres at no cost for water or for power. He has no canal charges—no bond assessments—no waiting for his turn—no noxious seeds carried on to his land—no scarcity in dry years.

Think what such a well means to the dairyman.

Send the coupon below—let us tell you more about the Soil, Water, Climate and Transportation facilities at Dairyland.

Stine & Kendrick, 23 Montgomery St., S. F.

Gentlemen: Please send (without obligation to me) descriptive and illustrated literature on "Dairyland Farms." I am interested in the crops as checked below (X) and would like your special Bulletin on the subject.

Alfalfa	Melons	Peaches
Dairying	Sweet Potatoes	Grapes
Hogs	Tomatoes	Figs

Name

Town..... State.....

Send me price and terms on..... acres. LSDJ

STINE & KENDRICK

23 Montgomery
Street
San Francisco

CUT OUT
COUPON
MAIL IT
TODAY



Holsteins Thrive Near Mt. Shasta

If pleasant surroundings make for increased production in the dairy cow, the cows in the registered Holstein-Friesian herd owned by the McCloud River Lumber Company at McCloud, Cal., should make an appreciative yield. They stand today in luscious, green, native grasses knee high, a sparkling stream of pure water flowing through their pasture, snow-covered Mt. Shasta towering above them, and yet far enough away that its coldness is tempered by the bright mountain sun. Their pasture is three thousand feet above sea level, along the banks of Squaw Creek, in Siskiyou County, and just outside the town of McCloud. The town itself is simply a gathering of the employees and their families of the McCloud River Lumber Company, which carries something over fifteen hundred people on its pay roll. The lands along Squaw Creek have been for some years past denuded of their forests of sugar pine, and the company has something over one thousand acres of these lands in crop. Up to comparatively recently the principal live stock raised has been draft horses for use in logging operations, and the company has an especially fine lot of grade mares weighing up to 1800 pounds. Much of the land has been given over to raising feed for the horses and mules, and is especially adapted to timothy. The writer found here the best quality of timothy hay he has seen in the West.

There are also some 1600 head of beef cattle pasturing in the logged off flats, and they stand sleek and fat in abundant feed.

It was for some years a serious problem to secure an adequate and satisfactory supply of milk and cream for the folks at McCloud, and it was to overcome this that the company decided to go into the dairy business. This move decided upon, it was determined at the same time to secure the best of cows, and a fine herd of registered Holstein-Friesians was purchased in Minnesota. Practically all of the cows purchased were of A. R. O. parentage, and some of the cows themselves have creditable A. R. O. records. The herd, as it now stands, contains about sixty head of registered animals of high average excellence. Some of them would be contenders for the highest honors in California show rings, and there are several that would be hard to beat. Possibly the showiest cow in the herd is Johanna Bonheur 3d. This cow would unquestionably be a keen contender in the aged cow class at the State Fair. She is a beautiful type, has an ideal head, neck and shoulders, long, deep barrel, straight top, good mammary system and is a

show cow all over. She also is a producer, having an A. R. O. record of 18.22 pounds butter in 7 days and a semi-official record of 515.20 pounds in 364 days. She is sired by Sir Aaltje Posch and get of Johanna Bonheur that has a semi-official 365-day record of 890.31 pounds butter and 20,470.7 pounds milk.

Floa Abberkerk is another cow of apparent capacity and good type. She is sired by Sir Abberkerk Posch 2d that has six A. R. O. daughters and out of Floa Pietertje a cow with a 7-day A. R. O. record of 16.920 pounds butter as a 3 year old.

A daughter of this cow, Floa Abberkerk 2d, has an A. R. O. record of 18.62 pounds of butter in 7 days. This young cow is if anything a bit better individual than her mother, and is sired by Aaggie Cornucopia 3d's Lillith, that has twenty A. R. O. daughters, ten of which are over 20 pounds, the best of them being Spring Brook Pearl, with an A. R. O. record of 27.037 pounds butter in 7 days and semi-official record of 787.60 pounds butter in 365 days. This good young cow will undoubtedly be given an opportunity to still further establish the reputation of her sire, and appears to have plenty of capacity to make a high mark.

There is within this herd quite a large group of cows that hold out promise of making very creditable A. R. O. records when the company is ready to begin official testing. A few of these are worthy of especial mention.

Daisy Imogene Jewel is a rugged type of cow, with plenty of middle and carrying a large udder and good veins. She is known to be a good producer, and will be well up when tested.

Suicide Parthena is a big, roomy cow of excellent type, carries and exceptionally good udder and will be heard from later.

Koppijne Mercedes is quite a different type of cow, but not less desirable. She is a daughter of Sir Korndyke Mercedes and Koppijne Von Harlingen, both backed by A. R. O. breeding for several generations.

Reinschje Beauty Virgo is one of those low-down cows with great capacity and a finely developed mammary system. She is getting along a bit in years, but still has quite a number of useful years before her. She is sired by the well known bull, Virgo Beauty Duke, whose get were prominent and frequent winners at the St. Louis Exposition. A daughter of this bull, Fay Jewel Beauty, was grand champion at the 1911 National Dairy Show.

Geertje De Kol is not only one of the best individuals in the herd, but

Larrowe's DRIED BEET PULP



—clean, healthful, succulent
—the ideal feed for dairy cows

ONE ton of Larrowe's Dried Beet Pulp contains as much nutriment as five tons of silage—and in addition is clean, healthful and succulent. It is a wonderful milk producer; convenient; economical; always ready at any season.

Read what H. F. Holmshaw, Colfax, Cal., says:—

"In feeding Larrowe's Dried Beet Pulp to my herd of twenty cows, I make a saving of \$1.00 per day on my feed bill—and get an extra quart of milk per cow a day."

That means (at 10c a quart) a total saving of \$3.00 per day or \$90.00 a month.

No matter what your ration—you can improve it by adding Larrowe's Dried Beet Pulp, the pure shredded root of the sugar beet. It is light, bulky, swells to about six times its original bulk when moistened; always uniform; keeps indefinitely. Order from your dealer today.

LARROWE'S
MOLASSES-DRIED
BEET PULP

—preferred by some feeders on account of its sweetness. Just the plain Beet Pulp with beet molasses dried. Fine for fattening, also for horses. Try one sack.

WRITE FOR BOOKLET "PROFITABLE FEEDING," giving feeding instructions and valuable information. Free on request.

THE LARROWE MILLING COMPANY
Sixth Floor, Central Building LOS ANGELES, CAL.



DAISY IMOGEN JEWEL.

In Purebred Holstein-Friesian Herd Owned by McCloud River Lumber Co., McCloud, Cal.

CUT THE COST
OF LEVELING AND CHECKING IN HALF!

It can be done if you use a

Schmeiser Giant Engine Scraper

or Leveling and Checking Outfit

Write for Particulars Now

SCHMEISER MANFG. CO.

Box 200

DAVIS, CALIFORNIA

3 BULLS

I have for sale 9 Choice Registered Shorthorn Bulls, ranging in age from 8 to 14 months. In good condition, and well bred.

H. L. MURPHY, Perkins, Cal.

one of the best producers as well. She probably will never be shown, as she, too, is advancing in years, but she should make a place for herself in A. R. O.

One of the most promising young cows in the herd is Imogene Jewel Longfield Beauty 2d. She is a very showy heifer, and shows every indication of becoming a heavy producer.

There are many other excellent cows in the herd, and when official testing begins there is little doubt but that a number of very good ones will be placed in the purple.

The McCloud River Lumber Company were unfortunate enough to lose their herd sire, Sir Korndyke Hengerveld De Kol 31st. This bull was a son of Sir Korndyke Hengerveld De Kol, and out of Grace Ormsby De Kol Hengerveld, an A. R. O. cow with a 7-day record of 29.60 pounds butter. A number of his calves are now in the herd, and they are a fine, straight, vigorous lot. The writer noted especially three heifer calves that should land right close to the top of our best calf classes at the fairs.

The sire now heading the herd is the young bull, McCloud Prince Ormsby. He is a very good individual, carrying plenty of A. R. O. blood. He is sired by Sir Ormsby Hengerveld De Kol, that has thirty-one A. R. O. daughters, and is out of Minita Inka, a 20.45 pound daughter of Sir Inka Netherland Hartog and Minita's Milkmaid, a 24.022 pound A. R. O. cow.

This young bull is also half brother to Pietertje Maid Ormsby, with a 7-day A. R. O. record of 35.56 pounds butter.

The young stock coming on in the

Copa De Oro Herd Holstein-Friesian Cattle

For Sale—Six sons of TIRZAH LA POLKA PIETERTJE LAD, who has forty-three close relatives who have made 30 pounds or over of butter in seven days.

CHAS. JAY WELCH, LOS BANOS, CAL.

REGISTERED

HOLSTEIN-FRIESIANS H. B. COWAN

Box 512 MODESTO, CAL.

MOORLAND FARM

HOLSTEIN-FRIESIANS

Offers a Splendid Bull Calf, whose 4-year-old dam has just made 22.80 pounds butter in 7 days under official test.

K. W. ABBOTT, MILPITAS, CAL.

REGISTERED

HOLSTEIN-FRIESIANS

Increase the value of your herd by introducing the blood of the greatest producers of the breed. We offer a number of Choice Grandsons of King Segis. Also a number of Grandsons of the world's record cow, Creamella Vale. Write or call and inspect our herd.

F. & H. STENZEL, SAN LORENZO, CAL.

CREAMCUP HERD

HOLSTEIN-FRIESIAN CATTLE and O. I. C. SWINE

Bull Calves for sale from A. R. O. dams, sired by a grandson of King of the Pontiacs, also by a son of Colantha Johanna Lad.

M. M. HOLDRIDGE,
WOOD COLONY, MODESTO, CAL.

REGISTERED

HOLSTEIN-FRIESIANS

Hard Headed by

Juliana King of Riverside

One of his young bulls, also one sired by Cornelia King and out of high producing dams, for sale.

B. F. ANDERSON,
ROUTE 2, MODESTO, CAL.

REGISTERED

HOLSTEIN FRIESIANS

We offer a grandson of KING OF THE PONTIACS, nearly white. Fine individual; 17 months old. Price \$250.00.

McALISTER & SON,
CHINO, CALIFORNIA.

herd is particularly good, both bulls and heifers, and we may expect to note good performance in this herd a little later on. Some of the young bulls are of rich A. R. O. breeding, and as they go out to other herds they will do much to further scatter good Holstein blood on this coast. There are two young grandsons of the great A. R. O. bull, Hengerveld de Kol, in the herd at present, and these will be sold owing to their close relationship to a large number of females in the herd.

The locality of McCloud is particularly well adapted to the development of Holsteins. The growing season is not as long as in the valleys of California, as there is snow on the ground for around four or five months out of the year. There is an abundance of the purest water, and there are few flies and other insect pests to bother. There is a wealth of pasture of native grasses, but this is to be supplemented with feed from crops. Preparations are being made at the present time to put in between 400 and 500 acres of alfalfa. Some beets have already been put in, and the cows will have these during the coming winter. It is believed also that corn for ensilage can be successfully grown and experiments will be made. If they result satisfactorily, silos will be erected, and by the time the alfalfa and ensilage crops are assured, plans will be made at once to place a number of the cows in the herd on official test.

The quality of stock upon which this herd is founded and the manner in which they are being handled, combined with the natural advantages of their surroundings, promises well for high achievement in official production. Also, look out for some of the young things in this herd if they happen to show up at the California State Fair.

GEORGE A. SMITH HOLSTEIN SALE

The sale of registered Holstein-Friesians held on Geo. A. Smith's ranch at Corcoran, Cal., on June 16th was a successful one, and was also a very valuable index for future events of this kind. In the first place it seems to the writer that Mr. Smith made a very keen selection of individuals with which to inaugurate his annual Holstein sales. There was not a single poor individual passed through the sales ring, and the majority of the animals were of especially good type. Possibly the choicest group of heifers in the sale were those sired by Arcady Pontiac Wayne Hengerveld. They were a uniform lot of excellent type and should prove a source of great satisfaction to their respective buyers. There were also a fine lot of daughters of Lad Legend of Kakenstein and Lord Snowflake of Copa De Oro. All of these females should prove highly profitable at the prices they brought. Most of them were out of untested dams, and this fact alone served to keep prices lower than they otherwise would have been. All of which appears to be to the advantage of the buyers, for on individual form and the breeding of their sires they should develop into excellent producers.

Southern California buyers were out in force, and some of the choicest offerings were knocked down to buyers from Riverside, San Diego and Los Angeles Counties.

The largest individual buyer was E. R. Pntz of Fresno County, who secured a very choice collection of cows and heifers.

The top price of the sale was realized on the bull, Major Woodcrest Segis, a grandson of King Segis and out of Woodcrest Maid Pauline De Kol, a 21.72 pound cow. This bull was bid up to an even \$1000, and was taken home by John Johnson of San Diego County.

The next highest priced bull, Consuelo Juliana Lad, was taken by C. S. Bond, also of San Diego County, at

BULLS FROM PRODUCERS WILL SIRE PRODUCERS

The constant test work carried on in our herd of registered Holstein-Friesians enables us to determine the individual production of our cows, and to make the best possible matings to produce producers.

While a great number of our cows have made large 7-day and 30-day records, we have bred especially to secure large yearly producers—the all-the-year-round yield that means profit in dairying.

We have 15 cows that have averaged 20,525 pounds milk and 721.13 pounds butter-fat in one year under semi-official test.

We have 40 cows, many of which are heifers with first calf, that average 620.98 pounds butter-fat in one year under semi-official test.

These high producing cows are daughters of prepotent sires, bred to prepotent sires, and their sons will transmit the producing qualities of their dams.

We offer a select lot of Bull Calves out of dams of known high production, and sired by bulls carrying the most approved blood of the breed. Our prices are moderate considering the quality of our offerings, and are well within the means of any dairyman. Visit our farm and inspect the herd, or write for prices, describing the kind of bull you want.

A. W. MORRIS & SONS CORPORATION

WOODLAND, CAL.

MILLBRAE DAIRY HOLSTEINS

PROPERTY OF ESTATE OF D. O. MILLS

We have a few vigorous bulls of good type and breeding ready for service. Also an unusually fine selection of bull calves. We advise prospective buyers to make an early selection in anticipation of a very heavy fall demand for bulls.

WE HAVE NO FEMALES FOR SALE.

Correspondence Invited.

Visitors Welcome.

14 Miles From San Francisco on Southern Pacific
or San Mateo Electric Cars Leaving 5th and Market

MILLBRAE DAIRY
MILLBRAE, CALIFORNIA

A. R. O. Holsteins

We offer two Young Bulls sired by SIR KORNDYKE HENGERVELD DE KOL 31ST. This Bull is sired by SIR KORNDYKE HENGERVELD DE KOL and out of GRACE ORMSBY DE KOL HENGERVELD, A. R. O. record 29.60 pounds butter in 7 days. One of the young bulls we offer is out of an A. R. O. cow that made 11.701 pounds butter in 7 days at age of 2 years and 1 month. The other bull is out of Floa Abbecker, an untested cow that has an 18.62 pound daughter in our herd. We also have a few straight, well bred Bull Calves for sale. These bulls are priced very reasonably considering their individuality and breeding.

Write for prices and pedigrees.

THE MC CLOUD RIVER LUMBER COMPANY McCloud, Calif.

CHOICE BULLS---

We offer a number of choicely bred registered Holstein-Friesian Bulls, sired by RIVERSIDE PRINCE. These bulls are rugged, well marked, and of high individual quality.

VISIT OUR FARM OR WRITE FOR PRICES AND PEDIGREES

J. H. HARLAN & CO.
WOODLAND, CALIFORNIA

REGISTERED

Holstein-Friesian COWS

Seven Cows and Herd Bull, Segis Oak Homestead Fobes (72977). A grandson of King Segis, whose seven nearest dams average 30 pounds in 7 days. The Cows are choicely bred, and several due to calve soon. Also a few Bulls ready for service.

N. E. MULICK, WILLOWS, CAL.

YOUR COWS

Need Nourishing Feed—Butter Producing Feed—Economical Feed

FEED COTTONSEED MEAL and BULLS

According to Government investigation this feed contains more digestible protein than any other. Cows like it—horses thrive on it—sows fatten on it—chickens lay more eggs on account of it.

ECONOMICAL—EASY TO FEED

Sends for interesting booklet. It tells how to feed it and gives a complete treatise on its many uses.

FOR SALE BY ALL FEED DEALERS.

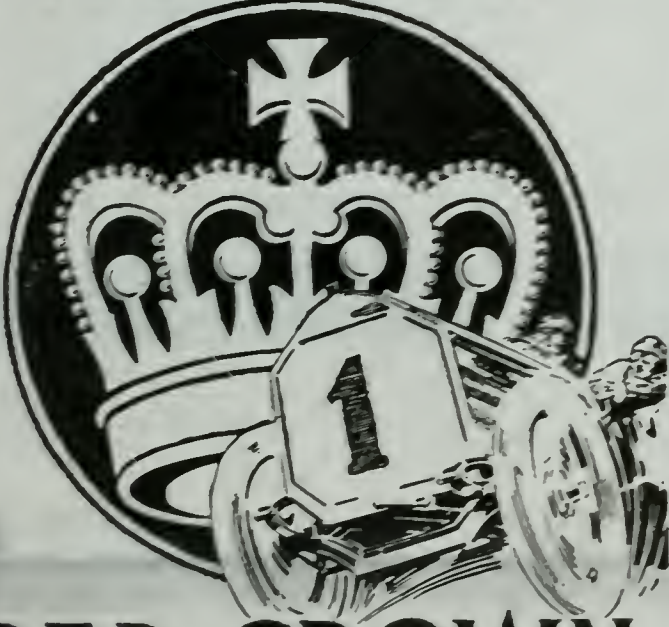
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EL CENTRO, MANUFACTURERS.

WILLITS, PATTERSON & GREEN
LOS ANGELES, CAL.

Exclusive Wholesale Selling Agents.

FOR POWER-



RED CROWN

THE GASOLINE OF QUALITY

There is gasoline and gasoline. As a discriminating purchaser you are not concerned with what your gasoline costs *per gallon*—but you are very much concerned with what it costs *per mile*. It is this consideration that will lead you, like thousands of other motorists, to use Red Crown. It is quick acting—uniform—reliable. There is power in every drop.

Red Crown signs are furnished to all dealers handling Red Crown Gasoline. Watch for the Sign or ask our nearest agency about delivery in bulk.

Standard Oil Company
(California)

1125. This bull is a particularly showy animal, which fact, combined with his breeding, makes him appear a bargain at the price paid.

Eighty-one head sold for a total of \$246.42, an average of \$246.42 per head. Individuals and buyers follow:

COWS.

Salvador Zazo Colantha dropped January 24, 1913, E. L. Thompson	110
Isabella Grace of L. S. Bird dropped January 14, 1913, J. S. Bird	175
Rosa Murtre De Kol dropped March 17, 1914, E. L. Thompson	435
Lady Murtre De Kol dropped July 12, 1913, E. L. Thompson	335
Lillian Joanna De Kol dropped January 10, 1914, Napa State Hospital	475
Lady Holland Margaret De Kol dropped June 13, 1913, E. L. Thompson	560
May Sierra De Kol dropped April 11, 1913, Napa State Hospital	450
Berta De S. Joanna dropped December 4, 1914, E. L. Thompson	425
Laura De S. Joanna dropped April 22, 1914, Dr. Ben Settem	350
Grace Archdale Calamity Queen dropped March 17, 1914, Whittier School	450
Mervine De Kol dropped October 15, 1913, Napa State Hospital	700
Edgewood C. Murtre De Kol dropped January 27, 1914, Dr. Ben Settem	300
Cave N. 35 not catalogued Roy Vertrees	300
Cave N. 34 not catalogued Whittier School	375

HEIFERS.

Queen Isabella dropped Feb. 25, 1914, A. W. Morris & Sons Corporation	170
Isabella Grace of L. S. Bird dropped July 14, 1913, J. S. Bird	175
Joanna Lay De Kol, J. S. Bird	175
Hazel Hanna Hengerveld dropped March 25, 1913, L. H. Arnold	265
Lovely Lady Hengerveld dropped February 12, 1913, Roy Vertrees	175
Princess Una Hengerveld dropped August 3, 1913, E. R. Putz	195
Alta Reta Hengerveld dropped July 21, 1913, Roy Vertrees	300
Olivia Princess Hengerveld dropped August 3, 1913, McAllister & Son	175
Rosamond Lee Hengerveld dropped April 5, 1913, McAllister & Son	175
Cantate Wonder 2d dropped December 14, 1912, E. R. Putz	200
Consolation of Sunnyvale dropped August 12, 1913, J. S. Bird	265
Zampa Maud Maud 2d dropped July 6, 1913, H. H. Newman	215
Princess Luana of Sunnyvale dropped August 18, 1913, J. S. Bird	165
Cantate Sunrise Hengerveld dropped December 4, 1912, E. R. Putz	200
Pauline De Kol Kakenstein dropped June 12, 1913, C. C. Lester	200
Delmar Kakenstein De Kol dropped November 4, 1912, E. R. Putz	320
Copa De Oro Katrina De Kol 2d dropped July 23, 1913, E. R. Putz	310
Copa De Oro Sally Aargie Jane dropped Aug. 19, 1912, C. C. Lester	200
Cardinal Kakenstein De Kol dropped Dec. 15, 1912, Napa State Hospital	310
Zeta Tuebie Propbetess dropped November 25, 1913, C. C. Lester	200
Copa De Oro Zampa 2d dropped July 22, 1913, McAllister & Son	170
Dotty Tuebie dropped January 17, 1913, E. R. Putz	300
Zozo Tuebie Nudine Dawn dropped June 12, 1913, E. R. Putz	250
Holland Lora Tuebie dropped March 12, 1913, E. R. Putz	255
Copa De Oro Pay Spotfoot 2d dropped September 20, 1913, L. H. Arnold	145
Holland Marda Colantha 2d dropped June 7, 1913, McAllister & Son	205
Copa De Oro Aargie Tuebie dropped December 5, 1912, H. H. Newman	235
Copa De Oro Aargie 2d dropped November 12, 1913, McAllister & Son	265
Sarcastic Colantha dropped May 6, 1914, J. A. Raymond	110
King Holland's Colantha dropped July 19, 1913, L. H. Arnold	225
Holland Lady Hartog dropped April 17, 1913, E. R. Putz	220
Carola Lady Holland De Kol dropped October 5, 1913, L. H. Arnold	225
Oro Jullana dropped April 12, 1913, H. H. Newman	190
Mildget Jullana dropped April 27, 1913, U. J. Martinelli	165
Gertie Zozo Colantha dropped May 15, 1913, J. S. Bird	170
Jessie May Anne De Kol 2d dropped June 18, 1913, U. J. Martinelli	185
Mademoiselle Korndyke Garibaldi 2d dropped May 13, 1913, C. C. Lester	205
Mamie Idlewild De Kol dropped July 29, 1913, McAllister & Son	145
Madelene Zozo 2d dropped May 12, 1913, McAllister & Son	160
Maud Onyx Hengerveld dropped November 15, 1912, E. R. Putz	210
Nudine Pieterie Bawn 2d dropped August 15, 1912, Whittier School	175
Carrie De Kol Johanna dropped April 25, 1914, Ennis Brothers	110
Corra De Kol Jarie dropped November 9, 1913, J. S. Bird	130
Daisy De Kol Emmeline Jane dropped September 19, 1912, E. R. Putz	175
Grace Payne De Kol Jane dropped April 6, 1913, McAllister & Son	165
Flossie the Queen Bucks Co. dropped November 29, 1913, J. L. Harlan	210
Church Hill Lady Hengerveld dropped October 21, 1912, E. R. Putz	300
Loretta Payne De Kol Jane dropped July 28, 1913, McAllister & Son	165

Heifer calf, J. L. Harlan	11
Heifer calf, J. L. Harlan	21
Alta Paul Berts dropped July 20, 1913, C. C. Lester	21
Berta De Kol Jane Berts dropped May 1912, L. H. Arnold	1

BULLS.

Mayor Woodcrest Sears dropped March 1, 1914, J. S. Bird	\$1000
Hengerveld De Kol Murtre dropped March 9, 1914, E. R. Putz	110
Hengerveld De Kol Murtre dropped July 12, 1913, C. C. Lester	52
De Kol Murtre De Kol Jane dropped Dec. 14, 1913, Whittier School	200
Luke De Kol Korndyke dropped April 9, 1914, C. C. Lester	125
Paul calf, N. Hansen	110
Paul calf, N. Hansen	110
Paul calf, N. Hansen	110
Shirley King Korndyke dropped November 11, 1913, C. C. Lester	305
Black Diamond Korndyke dropped December 1912, E. L. Thompson	230
Church Hill Clyde King 2d, J. A. Raymond	125
Church Hill Clyde King E. R. Putz	245
11 head sold for	\$15,950.00
Average price for the 11 head	246.36
Cows averaged	397.15
Heifer calves averaged	244.00
Yearling heifers (not bred)	185.50
Heifer calves averaged	147.70
Bull calves averaged	164.38

GROWING AND FEEDING SILAGE IN THE SALT RIVER VALLEY, ARIZONA.

(By J. B. Cook, President Pacific Creamery Company, in Southern Stockman-Farmer.)

Our experience during the past year has taught us that we could not get along without the silo, and have only recently filled it for the second time with barley. Our dairyman reports that the cows are eating it fine and increasing in their milk.

The silo is constructed after the style of many California silos, being 16 feet in diameter and 26 feet high, all above ground, resting on a concrete foundation. We used 2x3 studding, 14 inches on centers, using sized Oregon pine sheeting 1x5 1/2, which is sprung around hoop fashion inside of the studding in two courses with joints overlapping. Then 1x4 flooring is nailed vertically inside of the sheeting.

The silo cost us \$647, but with the experience obtained we believe this price could be lowered in the construction of another one perhaps \$75 or \$100.

We filled the silo first with corn, weighing in the entire amount, which aggregated 162 tons. This corn and sorghum was cut from 12 1/2 10 acres of land, it being one acre of sorghum and 11 1/2 10 acres of corn. Although the corn was very green, having been cut a little too young, we nevertheless ran a one-half inch stream of water into the cutter throughout the entire filling. After feeding some three weeks on the corn silage we experienced a week of rainy weather which caught us with 16 acres of alfalfa cut but not shocked. As the alfalfa had lain in the field for five days we concluded to put it in the silo, there being eight feet of space in the top due to settlement, and the three weeks of feeding. Although we hesitated considerably about running the risk of putting this fresh silage on top of the corn, we finally decided to do so, as it had long been our opinion that much alfalfa might be saved in this manner that would otherwise be a total loss. After this alfalfa had gone through the sweat we had been feeding only a few days when another cold rain came which caused all other cows in the country to shrink in this production, although quite the contrary was the case in our own herd of 36 cows, for in five days, which included the cold rain, our herd increased 80 pounds, which we feel is a very favorable showing for silage. We also found this very excellent feed during the winter for calves. In addition to feeding our milk cows we fed 47 head of calves and yearlings with very little additional alfalfa hay, bringing them through in the spring in very excellent condition.

We are convinced that no dairyman can afford to be without the use of a

silos. The diameter of the silo should be governed by the number of cows to be fed, as at least one inch of silage from the entire surface should be removed each twenty-four hours in order to avoid mold.

We are of the opinion that a stave silo, made of first-class material would be serviceable even in this dry climate, and could be built much cheaper than the one we have constructed.

THE WORK OF FIFTY GUERNSEY COWS.

The Live Stock and Dairy Journal—The last fifty Advanced Register records of Guernsey cows approved and ready for certificates show some interesting figures relative to the records being made by this breed.

Thirty-six out of the fifty gave an average of over 505 pounds butter-fat, showing the standard that many Guernsey breeders are setting for their herds. Four of the number averaged 622 pounds and two were 713 pounds each.

To the dairyman who does not aspire to making world records, but wishes to know what he may reasonably expect from Guernsey cows, the foregoing figures are worthy of note. He is proud to know that a Guernsey cow, May Rilma (22761) holds the world's record for butter-fat production, with a yield of 1073.41 pounds butter-fat in one year, and perhaps equally pleased to know that he has selected a breed, the rank and file of whose cows show such averages.

When he considers further the cost of production and sees that he has received greater returns from his feed and the care given than he could have obtained with any other breed he has renewed cause for satisfaction.

In this group of cows four records are for their second year, and three are for their third yearly record, demonstrating that they "come back" repeatedly and improve their previous year's work. As illustrating this, we cite the case of Anton's Patience (24474), whose three years' records are as follows:

	Lbs.	Lbs.
	Milk.	Butter-Fat.
First year	7,618.80	430.15
Second year	10,358.80	572.82
Third year	11,934.00	643.16

While these are not phenomenal records they show the great value of Advanced Register work to the dairymen in following just what his cows are or should be doing. The number of breeders who are taking advantage of this work is steadily increasing.

WM. H. CALDWELL,
Secretary American Guernsey Cattle Club.

NEW CHEESE FACTORY FOR TEHAMA COUNTY, CAL.

A cheese factory with a daily capacity of 6000 pounds has been opened on the Los Molinos project in Tehama County, Cal. The factory is located at Dairyville, and is fully equipped with all modern machinery and equipment for the manufacture of full cream cheese. It is so located that it is surrounded on all sides by an exceedingly rich dairy country, and it should be a success from the beginning.

The officers of the company operating the factory are J. W. Smith, President; D. T. Ruby, Vice-President; G. J. Peaslee, Treasurer; and the Board of Directors is completed by E. Farmer, S. E. Stevens and E. M. Le Clair.

AN ERROR OF OMISSION.

In the list of special and added prizes offered by the Holstein-Friesian Association of America for 1914 Pacific Coast fairs, as published in the

June Journal, we neglected to include Pacific International Live Stock Exposition to be held at Portland, Ore., December 7-12, 1914. Our attention has been called to this by Mr. L. R. McGee, Treasurer of the Exposition, and we are pleased to state that the Holstein-Friesian Association of America has added 30 per cent to the 1913 classification of Pacific International Live Stock Exposition for the 1914 show. This show has rapidly come to the front as one of the most important of the Pacific Coast live stock shows, and coming as it does after the regular fair circuit is over it enables winners at the various other shows to get together and find out who actually has the champions. For this reason it is of especial value to the breeder to win in the stiff competition at Portland.

LARGE SUMS INVOLVED IN PURCHASES OF HOLSTEIN BULLS.

The time seems to have arrived when a dairy bull is largely valued because of his producing capacity, and the science of official testing has reached a point where well posted men are willing to pay large sums for bull calves very largely on the strength of the official production of their ancestors. The largest valuation ever placed upon a dairy bull was recently established when L. L. Lawson of Lagrangeville, N. Y., paid \$25,000 for a half interest in King Segis Pontiac Alcartra. In commenting upon the evolution of this bull the Holstein-Friesian Register says:

"On May 13th last, L. L. Lawson of the Lawson Holding Company, Inc., Lagrangeville, N. Y., handed a check for \$25,000 to John Arfman of Midletown, N. Y., at the new sale pavilion, Liverpool, N. Y., in payment of a half interest in the Holstein bull, King Segis Pontiac Alcartra. The Lawsons, who have been breeding the Black-and-Whites for only about a year, are laying the foundations for an extensive and very high-class business; and this acquisition seems to be a master stroke; for King Segis Pontiac Alcartra has a record of achievement and profit probably unequalled. This is the second time he has made a world's price record. The first time was in June, 1911, when he was consigned (at 7 months old) by Stevens Brothers' Company, Liverpool, N. Y., to the Breeders' Consignment Sale at Syracuse, and was purchased by John Arfmann for \$10,000. His young son, born January 24, 1914, by the record-breaking Lady Tobe De Kol has now exceeded this record by selling, at the 1914 sale, for \$11,300. King Segis Pontiac Alcartra has since been generally known as 'the \$10,000 bull,' and the 'taint' of money has clung tenaciously to him and his progeny. His service fee is now \$300. Eight of his young sons sold recently for \$10,444 and nine for \$12,000. Add these splendid revenues to the value of his young daughters retained in Mr. Arfmann's herd and it will be seen that King has paid his owner good interest on money invested."

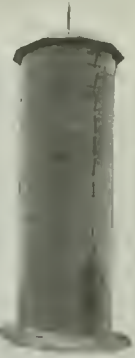
It will be noted from this that a valuation of \$50,000 is fixed upon this bull, not because he suits the fancy of a wealthy man, but because the bull actually has an earning capacity to pay handsome interest on an investment of \$50,000.

That this price was no accident was proven when his half brother, King Segis Pontiac Chicago, a calf only four months old, was sold at public auction for \$20,000 recently. Both of these bulls are grandsons of King Segis, the great bull that lived only six years, and in that time sired 83 A. R. O. daughters and 58 A. R. O. sons. Seven of his daughters have records above 31 pounds, and seven of his grand-daughters have records above 30 pounds. The sire of these two high

SILOS

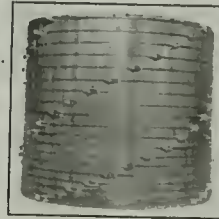
Are absolutely essential to profitable feeding on Modern Stock and Dairy Farms

We will take your order for the correct size Silo to fit your conditions and build one to order for you that is mechanically perfect, as is this 12x36 Redwood Silo manufactured by us and installed on University Farm, Davis, Cal.



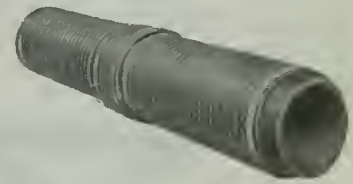
TANKS

From 500 to 500,000 gallons capacity. Built to suit all uses and users. Will outlast ten metal tanks and costs less than one.



PIPE

Machine Banded and Continuous Stave. For water supply, power and irrigation.



ALL DESIGNED by our expert engineers. Made in our own immense factory from clear, air-dried redwood, selected from AIR-DRIED STOCK OF 40 MILLION FEET, which we carry at our plant at ALL times.

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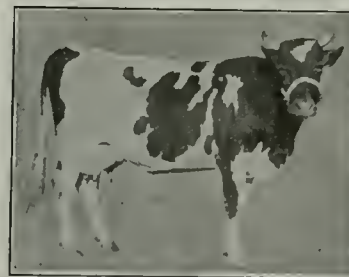
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For Chickens, Milk Cows, Hogs and Young Pigs. Cheapest Food in the Market Today. If your dealer Doesn't Carry It, Address:

EL DORADO OIL WORKS
149 California St., San Francisco, Cal.



Raymond 8th's Desire of Lewison.

ALTA VISTA HERD

OF REGISTERED

GUERNSEYS

Owned by Chas. G. Lathrop, Stanford University, Cal. A number of mature cows, some of them imported, bred and unbred helpers, and some choice bulls. A number of the helpers are bred to Violet's Pride of Iowa, whose grand-dam has an A. R. record of 912 pounds butter-fat in one year.

Inquiry or Inspection Invited.

AYRSHIRES

I have for sale thirty head of Registered Ayrshires, some of them imported. Young, healthy stock. Cows now being milked.

F. H. HOWELL

PITTSBURG,

CALIFORNIA.

priced bulls is King Segis Pontiac, a comparatively young bull that already has 30 A. R. O. daughters, all young yet, but with good records.

King Segis Pontiac Emperor, senior herd sire in the herd owned by A. W.

Morris & Sons Corporation, Woodland, Cal., is a half brother to the two record price bulls, and he participates to a great extent in the increased valuation which is being placed upon the get of King Segis Pontiac.

The Value of a Purebred Bull

(By Irving M. Avery in Kimball's Dairy Farmer.)

I am going to begin by stating a well worn breeders' axiom: The sire is half the herd. Only I am going to go a step further and state my private opinion, that he seems to me to be about nine-tenths of it. Man proposes but the bull disposes. One must breed either up or down. As the keystone to the arched bridge, so is he to his surrounding herd. If he is a weakling the whole structure comes to naught. Therefore it would seem that one should first carefully consider the question of what breed to select if he is starting a new herd or if he contemplates building up a present one he must decide which breed of bull will best further his interests. Fix on one of the established dairy breeds if you intend producing market milk; the so-called "general purpose" and "dual purpose" cows are delusions of the past. This is undoubtedly an age of concentration, specialization and competition, and no man has ever been able to breed a good beef animal and a large milker at the same time. Stick to one or the other. In this particular section the Holsteins predominate

because of their ability to yield large quantities of milk continuously, which product is disposed of whole to city buyers.

But no matter what breed you finally select, the one great truth and the one unassailable fact remain, viz: A rich man may afford a poor sire, but a poor man never! He should have the very best that he can possibly procure, for he simply cannot afford to take chances. At the price of good straight milking cows today every dairy farmer should raise his heifer calves from his good cows, and he may know his good ones by becoming a member of a cow testing association—organizations that have accomplished untold good in advancing the dairy interests.

We are indebted to Wilber J. Frazer, Chief of Dairy Husbandry of the University of Illinois, for some very valuable information relative to the improvement in the ordinary dairy herd by the use of a good sire. He says, in part:

"If the good purebred sire improves the milking capacity of his daughters

only one and one-half pounds at a milking above the production of their dams it would mean an increase of 900 pounds of milk for the 300 days that an ordinary cow should give milk. These daughters may, therefore, be credited with some 1000 pounds more milk per year than their dams produced. At the very low estimate of \$1 per 100 pounds this extra milk would be worth \$10 per year. The average cow is a good producer at least six years. It will on the average be four years after purchasing the sire before his first daughters will have brought in the first extra \$10. Now \$8.23 kept at compound interest for these four years will at 5 per cent equal \$10. Therefore the daughters' improvement or increase in income the first year is worth \$8.23 at the time her sire is purchased."

An illustration of the cash value of the daughter's improvement, inherited directly from the sire, figured on the same way for each of her six years of producing milk, according to Mr. Frazer's figures, looks as follows:

Improvement first year	\$8.23
Improvement second year	7.83
Improvement third year	7.46
Improvement fourth year	7.11
Improvement fifth year	6.77
Improvement sixth year	6.45

Total for six years.....\$43.85

In an ordinary herd of say 35 to 40 cows there should be at least twelve heifers each year worth raising, making it possible for a bull to earn twelve times the above total of \$43.85, or \$526 per year for three years that a bull is ordinarily kept in service. Therefore the cost of providing each of the above mentioned twelve heifers with one good parent would look something like this:

	Purebred.	Grade.
Cost of sire	\$150.00	\$30.00
Interest 3 yrs. at 5%	22.50	4.50
Cost of keeping, 3 yrs.	100.00	100.00
Risk of losing, 3 years	50.00	10.00
Total expense 3 yrs.....	\$222.50	\$114.50
Extra cost of		
good sire 3 years.....	\$108.00	
good sire 1 year.....	36.00	
good sire, each		
daughter	3.00	

Leaving out the male calves it would appear that it cost \$36 to provide one good, purebred parent for the twelve heifer calves raised each year, or \$3 per heifer. The \$3 expended brings in an average return of over \$7 per year for six years, or \$43.85 in all—a clear addition of \$43.85 to the income of each daughter or a net profit of \$40.85, and of \$1470 for 36 daughters in three years.

Mr. Frazer's figures are most interesting and will bear careful thought and study. On this basis who would want to continue with a grade bull, even if he were forced to borrow, or part with a few of his poorer cows in order to secure a good purebred? It is all a simple business proposition which must appeal forcibly to any thinking man. The more run down the farm, the more crying need of modern methods. The poorer and less productive the herd the less warrant for false economy in the selection of a bull and the more need of a reliable purebred sire from which to raise heifer calves to replace unprofitable stock.

And right here and now I wish to take occasion to say that just because a bull is "registered" and has "papers" he is not of necessity a good one. Many registered bulls lacking several generations of consistent producing ancestors have proved bitter disappointments to their purchasers. All good purebreds are registered animals, but all registered animals are not good purebreds.

So, first of all the herd bull should be a good individual, large, straight, of good dairy type and free from disease. Second, he should descend on


both sides of his pedigree, and especially on the dam's side, from producing animals as proven by their advanced registry official records. And third, he should have the power called prepotency, of transmitting his inherited traits to his own offspring and stamping them with his individuality. A bull can transmit only that which he inherits. "Like begets like," and if he does not inherit desirable dairy qualities he certainly can not transmit them. Altogether it would seem well for any one desirous of improving his herd to definitely decide to do at least three things and not be led astray by any comments of his neighbor. Let him first decide upon the most desirable breed for his purpose and then by hook and crook secure the best possible specimen of that breed he can possibly obtain to head his herd. Let him next select by means of the scales the daily milk sheet and the Babcock test his best cows and keep their heifer calves. Lastly let him rear these calves as carefully and conscientiously as he can, developing them properly and eventually replacing with them, when they come in profit, the older members of the herd. Nothing very hard, nothing very difficult of accomplishment, no great trick to it all; only a little ambition and a desire to make the most and have the best possible. Any progressive dairy farmer can accomplish the same wonderful results that hundreds of successful men have accomplished in other sections of the country if he will only try.

And in time the herd will become 15/16 or 31/32 pure, and he raised to a high degree of efficiency. Then it will be time to think of buying a few registered purebred heifers, and in surprisingly short time a herd can be made all purebreds and a profitable market for bull calves established as well as for surplus females. But shun, shun the grade bull as you would a pestilence, and do not count too closely the cost of a purchased sire. There might be some sense in a farmer's saying that he could not afford a long price for a fine cow, but that does not apply to a bull because of his influence over the entire herd. In many localities neighbors combine and own a bull in partnership, or he is sold from one to another when it becomes necessary to avoid inbreeding, thus reducing the cost of controlling a good sire.

But in any event there is a large and growing movement from the cities toward the country. "Back to the farm" is a cry more frequently heard every year, and those already on the ground and started right in the business have a big advantage. The successful dairy farmer of today, with the high cost of living for cows as well as for humans, is the far-sighted man who buys good, breeds better and owns best.

There is a very definite movement at the present time in California among breeders of dairy cattle, toward official testing. We may confidently expect some remarkable records to be established during the coming year. We already have a number of well tested Holstein herds, a few Jersey herds of very high average production, and there are now within the state a good number of Guernseys that are practically certain to make strong showings. We are lamentably weak on Ayrshires. There is a large place for this excellent breed in California, and we shall hope to see a number of good herds established within a short time.

There is a mighty fine lot of young registered Guernseys coming on in the herd owned by A. B. Humphrey, at Mayhews, just out of Sacramento. The herd sire, Don Adonis of Linda Vista, is one of the most richly bred Guernsey bulls on the coast, and the young things sired by him are showing plenty of Guernsey type.



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THE average cow in California produces about 200 pounds of butter fat annually. This is 50 pounds less than she should produce to make a profit to you. This means that there are thousands of cows which are not making a profit—in fact, are a loss to their owners. A good milk cow can't produce the maximum quantity of milk unless she is rightly fed.

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The Universal Eight-Hour Law

(Address of S. A. W. Carver, Secretary California State Dairy Association, before the State Fruit Growers' convention at the University Farm, Davis, Cal., on June 2, 1914.)

The Socialists of the State, by initiative petition, have forced upon the ballot at the coming election a proposed universal eight-hour law in the form of a constitutional amendment, to the effect that "any employer who shall require or permit any person in his employ to work more than eight hours in one day, or more than forty-eight hours in one week, shall be guilty of a misdemeanor," etc.

Several similar bills were introduced in the last Legislature of the State, but they never got beyond the committees. They were first amended by exempting from their operation agricultural, domestic and other pursuits, and were then smothered in committee. The dairy and agricultural interests were well represented at that session of the Legislature, and there was not much show for any such freak measures to pass.

Soon after the adjournment of the Legislature the Socialist organization set to work circulating initiative petitions all over the State, determined to press the issue upon the individual voter at the polls. They succeeded in getting the necessary 50,000 signatures to the petitions and the question of its adoption or rejection goes upon the ballots this fall. Are we ready to meet the issue?

As the case now stands the menace is very much greater than if it were pending before the Legislature. As a rule the men chosen to represent us in the Legislature are fairly capable business men, more or less posted on political, economic and industrial questions; and not as apt to be misled as the average voter. The only safe course is for every business man, every farmer, every fruit grower and every dairyman to see that every voter within the range of his influence is properly enlightened as to the vicious and impractical features of the measure.

The argument of our Socialist friends in support of this measure is based upon false premises, consisting of five fundamental propositions, all of which are both false and illogical. Their reasoning is:

First—Wages are not determined by what a man earns or produces, or the amount of work he does, but by the law of supply and demand. The greater the demand for labor the higher the wages.

Second—Shorten the hours of labor and more men are required to do the same amount of work. The demand for labor has been increased, and hence wages also will be increased.

Third—There is always plenty of work for everybody. The reason we have a problem of the unemployed is not because there is no work, but because a part of the workmen foolishly try to monopolize it by working excessive hours, forcing the others into idleness.

Fourth—This increase in wages and increase in number of men required for a given amount of work will not increase the cost of the product to the consumer, but will only reduce the excessive profits of the employer.

Fifth—The value of a man, as a citizen, to society is directly in proportion to the amount of leisure he enjoys.

Glory Be! Cry the disciples of I. W. W. in support of this alluring philosophy.

What sophistry our voters are asked to believe. Let us examine these sugar-coated pills before swallowing them.

First—It is true in a general way that wages are determined by the demand for labor; but the demand for labor is determined absolutely by the opportunity for profitable employment of labor; and this in turn is controlled and measured by the productivity of

labor, or what a man is able to earn or produce. If the demand for labor is measured by what it is able to earn or produce, then wages are inevitably measured by the same standard.

Second—To shorten the hours of labor does not require more labor. It requires more men, but not more labor. It increases the demand for men, but not the demand for labor. The difference is very important and very misleading. When an increased demand for labor increases wages it is because there is an increased amount of work to be done, and not because a larger number of men working shorter hours are required to do the same amount of work. The term labor means work and not men.

Third—We are told there is always plenty of work for everybody. This would be true in an ideal or Utopian state of society and business, but is it ever true in fact? The larger the opportunity for profitable employment of labor the more nearly will it become true. The only way to enlarge this opportunity for employment of labor is to make profitable and attractive all lines of business which employ large amounts of labor. If any line of business is profitable and safe it will attract capital and large amounts of labor will be employed at increased wages. The reverse is also true. The way to enlarge the pay rolls of our country and to increase wages is to help make business more attractive, not less attractive; to help make it more profitable to employ labor, not less profitable.

Fourth. Our Socialist friends admit that the operation of this law will increase the cost of production, but they say that this increased cost will not be added to the selling price to the consumer, but will merely be taken from the profits of the producer or employer. Simple enough, isn't it? But who, except a Socialist, could believe such nonsense. How do you expect to control the relation between cost and selling price? Never in the history of civilization, since the Romans made such a miserable failure of it, has any one been so foolhardy as to attempt such a scheme. If you know anything, you know that every cent of the increased cost of production will be added to the selling price to the consumer.

What is the matter with business today? Why is capital timid, and money tight, and business dull, and labor unemployed? My friends, it is solely because of the tendency everywhere to subject business to impractical and hostile regulation. We all know there has been need of regulation of big business, but what is needed is friendly and practical regulation, such as would remove the evil without destroying the industry or driving capital from it. Such friendly and practical regulation should be helpful rather than hurtful to our industries.

Nothing is more shy or sensitive than capital. Every hostile attack upon our industries tends to drive capital into hiding and reduces our pay rolls. Keep this thing up a few more years and we will have neither industries nor pay rolls.

There are at least three groups of commodities which are equally indispensable to mankind. They are labor, agricultural products and manufactured products. Labor is as much a commodity on the market as either of the others. No country can prosper which attempts to foster out at the expense of the others. Both for the good of society and in point of natural right each are entitled to equal opportunity, equal encouragement and equal protection under the law. This has not always been the case. A



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decade or so ago our great industries, by their greed and the force of their organized influence, were able to secure more than a fair share of opportunity and advantage in comparison with labor and agriculture.

Public sentiment awoke, labor began to organize and attempts at regulation and legislative control were carried to such extremes as to jeopardize many of our industries. In the

attempt to prevent the hurtful forms of combinations and trusts we have denied to business men even the right of co-operation, while at the same time we have exempted all forms of labor combines from the operation of such laws.

The farmer loves his quiet independence. He is patient, long suffering and slow to organize. Hence he received little consideration.



FAIRY ROSE.

A good young Dutch Belted cow in registered herd owned by Frank Reed Sanders, Mesa, Arizona. She was first and junior champion at California, Oregon and Arizona State Fairs, 1912. First prize 2-year-old at Michigan, Indiana, Ohio and Kentucky State Fairs, 1913. A creamery record of her production was kept in 1913, showing a production of 10,215 pounds milk, 410 pounds butter-fat.

But happily a new era is dawning. At present public sentiment is changing to a more rational view. It is being recognized as never before that modern competition is war and extermination, that price cutting is slaughter and suicide, and that business disaster always follows in their wake. Public utility companies are no longer permitted to cut prices, and the tendency is to encourage rather than condemn co-operation among farmers and business men, the same as in the labor world. Our legislation of the past ten years has been too hostile to our industries, too partial to labor, and has well-nigh ignored the farmer. Better days will come whenever we fully recognize the great economic value of co-operation in business, in agriculture and in labor, instead of the old idea that strife, price cutting and slaughter are necessary to success; and that one man's business can be built up only by tearing another's down.

Fifth—The argument that a man's value to society is in proportion to the leisure he enjoys reminds me of a story. A tramp called at the door and asked the lady for a nickel. She gave him the nickel, but explained that she objected to his mode of life, and that she gave the nickel, not because he asked for it, but because it pleased her to give it.

"Well, then, Madam," he said, "why don't you make it two bits and enjoy yourself."

If leisure is the measure of our usefulness, there are plenty of us who would like to be useful to the utmost degree by being entirely at leisure. Shall we call for volunteers?

Don't we all know that exactly the reverse is true; that the men who are busiest always make the best citizens and contribute the most to the good of mankind?

The hour should be the unit measure in all wages, just as the pound, the yard or the gallon are units of measure in merchandising and commerce. This unit of measure in wages should be made compulsory, and the laborer should be protected in it just as the public is now protected under our present weights and measures law. But it would be just as foolish and unreasonable to forbid the selling of more than eight pounds of sugar or more than eight yards of calico or more than eight gallons of milk to the same man on the same day as to forbid the selling of more than eight hours of labor to the same man on the same day, if the owner of the labor desires to sell it in that manner, and if by so doing he is placing no hardship on himself or upon those interested in him. If a compulsory eight-hour law for men is ever justified at all or anywhere, it would be under very limited restrictions. Its general application would certainly

work ruin to all agricultural pursuits, and to many other lines of business.

In its practical operation this proposed law would work much greater hardship to the farmer, the fruit grower and the dairyman than almost any other class. Many city trades and manufacturing establishments are already voluntarily working under an eight-hour system. Much of this work is done in confined quarters, is more strenuous while it lasts, is more of a routine character and lacks the variety and restful changes prevalent on the farm. Eight hours of such labor is far more wearing than ten or twelve hours of ordinary work on the farm in the freedom of God's out of doors.

The most vicious feature of this measure is found in the words "or permit." It reads: "Any employer who shall require or permit," etc. This will subject you to prosecution if you permit any member of your family, as well as any outside hired labor, to do any work, say before 8 a. m. or after 5 p. m. or on Sunday. The household help cannot even commence preparation of breakfast before 8 o'clock, or clear up the supper work after 5 o'clock, or do any work at all on Sunday. I can see where the farmer must come to two meals a day, with none at all on Sunday. Likewise the farm hand cannot even feed or harness his team before 8 o'clock or do any evening chores after 5 unless he takes the equivalent time off during the day. But who will tend the stock and do all the other chores on Sunday? Bossie must be milked after 8 and before 5—eight hours between milkings in the day and sixteen in the night period. This would soon dry up any cow.

Farm labor now enjoys perfect equality with the farm owner. But this compulsory eight-hour scheme creates a labor aristocracy. The burdens and the hours of toil for the employer are doubled. There is no hope of leisure and usefulness for him, even on Sunday. His nose is to the grindstone day and night, and he enjoys no rights which his hired help are bound to respect.

The demand for this eight-hour law, as a rule, does not come from the men who have their wages and get ahead, or who are winning frequent promotions, but rather from the men who overwork their tongues instead of their muscles, or who, after getting their pay Saturday night, are always busted Monday morning.

Even in the simplest form of farm operations, whether in grain or vegetable raising, fruit growing, live stock or dairying, there is no escape from the fact that a complete duplication in number of people employed will be necessary. The same will be true in every domestic household, whether on

th farm or in the city.

In the larger dairies where regular milkers are employed to milk a string of cows, it would be barely possible to keep the time necessary for feeding and milking within the two periods of four hours each, morning and evening, but an additional set of men would be required to do the other miscellaneous chores morning and evening and to milk and do the chores on Sunday.

At the present time only the farmer or dairyman who, with his family, is doing his own work is able to lay by anything. Very few men who are hiring their labor are breaking even, if interest and depreciation on investment are taken into account. If at one stroke you were compelled to double the amount of help necessary to do the same work, who among you would attempt to continue operating the farm or the orchard. You would be compelled to turn it over to the Japs or let it stand idle and run to weeds.

I know something of the dairy business, and I know that not more than one in five dairymen, taking the State as a whole, is breaking even, if ordinary wages for labor of himself and members of his family, and interest on the investment are counted out. The ordinary dairyman thinks that if he is making a living he is doing well, because it costs him so little to live on the farm; but he forgets that if he could draw down in cash the ordinary wages for himself and family and ordinary interest on his investment he would be doing better.

I have ordinarily good courage, and under adversity I believe that I could be as resourceful and efficient as the ordinary man, yet I can see nothing but disaster ahead for the dairy industry, my own business included, in case this freak eight-hour measure should be adopted. I have too much faith in the integrity and the good sense of our average citizenship to believe it ever will be adopted. The danger is in the cities where organized labor and socialism are strong and active, while very few farmers know anything about the matter.

The proponents of this measure are now circulating five other initiative petitions, among which are a minimum wage law, making the minimum \$2.50 per day, and a right to work law which I suppose means some form of compulsory employment. It is high time the people of this State were waking up or they will soon find themselves tied hand and foot.

Every community should organize for the fight. We have about 20,000 dairymen in the State. Each one of them will influence at least one vote besides his wife, which ought to mean 50,000 votes from the dairymen alone. If other industries will do as well we can stop this sort of thing in California.

In legislative matters I believe the dairy and the fruit interests should work together. We will be strongly represented at the coming session in matters of much needed legislation. We would like to work with you. In magnitude and importance to the State the dairy industry is second only to our great fruit industry, yet in the past how little recognition it has received. The better day is here. The dairymen are awake. We made ourselves felt as a factor at the last session of the Legislature and passed all our measures by a three to one majority, but the Governor saw fit to veto them. It will not occur again.

This law, if adopted, would clearly be unconstitutional. The Supreme Court of the United States declared even a ten-hour law of the state of New York applicable only to bakeries to be in conflict with and void under the Federal Constitution. *Locher vs. New York*, 198 U. S., 45. In that case the Supreme Court decided that "The general right to make a contract in relation to his business is a part of

the liberty protected by the Fourteenth Amendment of the Federal Constitution, and this includes the right to purchase and sell labor, except as controlled by the State in the legitimate exercises of its police power. Liberty of contract relating to labor includes both parties to it; the one has as much right to purchase as the other to sell labor. There is no reasonable ground, on the score of health, for interfering with the liberty of the person or the right of free contract, by determining the hours of labor, in the occupation of a baker. Nor can a law limiting such hours be justified as a health law to safeguard the public health, or the health of the individuals following that occupation."

This decision of the United States Supreme Court has since been followed by the Courts of the different states. See *State vs. Mikecek*, 135 Am. St. Rep. 597.

Apparently no state has ever yet adopted a universal eight-hour law.

Money is loosening up. Live stock sales are bringing out record prices. There was considerable complaint in California earlier in the season about a shortage of money, and prices at two public sales of registered dairy cattle were somewhat affected for this reason. At the Geo. A. Smith sale of Holsteins at Corcoran on June 16th, there was an entire absence of tight money talk, and this on top of the fact that it was strictly a cash sale. But then when you come to think of it, what investment should inspire more confidence than good registered dairy cattle?

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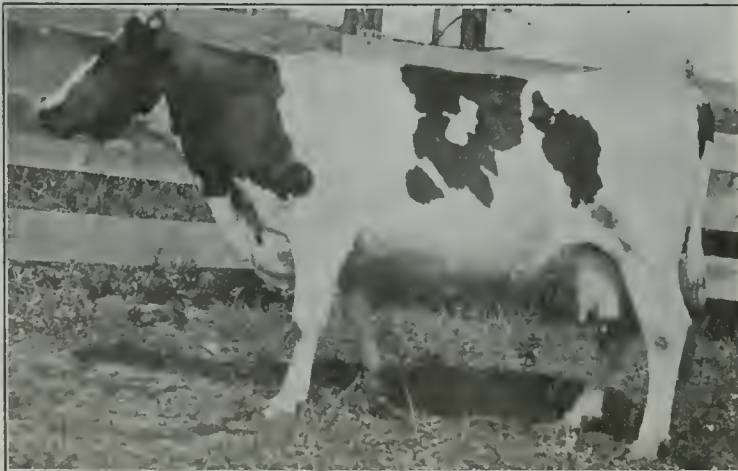
In order to supply the names and addresses of the various organizations to our readers we are publishing below the names of the various Associations with name and address of the Secretary, to whom application for membership and fee for same should be mailed.

CALIFORNIA LIVE STOCK BREEDERS' ASSOCIATION. D. O. Lively, Exposition Building, San Francisco.

CALIFORNIA JERSEY ASSOCIATION. J. E. Thorp, Secretary, R 6, Stockton, Cal.

CALIFORNIA HOLSTEIN-FRIESIAN ASSOCIATION. Jas. W. McAlister, Jr., Secretary, Chino, Cal.

CALIFORNIA SWINE BREEDERS' ASSOCIATION. J. I. Thompson, Secretary, Davis, Cal.



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THE FARM WOMAN'S PAGE

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This department is conducted for the purpose of dealing in a helpful way with the many problems which are encountered by the woman on the farm. Household and home questions from our women readers are encouraged. Address all correspondence for this department to Aunt Marcel, The Live Stock and Dairy Journal, Sacramento, California.

THE FRONT OF YOUR HOUSE.

The front of your house is something like your face. It reflects the kind of inhabitant it holds. Have you ever noticed as you drove along some road how very like faces some houses are? At times the resemblance is so very marked as to be positively comical. There are many houses, frivolous houses, stern houses, good-natured, open-doored houses, quaint houses, neat houses, thin houses, fat houses, artistic houses and even bald-headed houses. There is another characteristic of some houses very like one common to people. The outside utterly belies the inside—some very elaborate structures revealing a barren interior devoid of individuality and reminding one of some very handsome person who, however, apparently has everything on the outside of their head and nothing on the inside, while other extremely plain outsides conceal a delightful interior. It is well, therefore, to plan the inside of your house and make the outside harmonize in spirit as much as possible.

The planning of a front yard has quite as much to do with its beauty as the care it requires to maintain it and in the country where time and water are frequently a problem in the matter of a garden the simpler plants are the ones to choose. A garden which is filled to overflowing with all kinds of plants and shrubs, indiscriminately and injudiciously crowded in, is anything but pleasing to the eye. Like the rooms of a house the first requisites of a yard are comfort, simplicity and harmony and certainly in many well kept gardens we fail to find any one of them. How many times have we seen a vivid red house with a bright pink flowering vine climbing over it, a sight which is equally as hideous as the unkempt house. Or how often have we seen two shades of flowers, either one exquisite by itself, so planted together as to utterly ruin one another.

For a plant that requires little care, one of the most beautiful is the plain old-fashioned geranium. They come in many exquisite shades of red and pink, but these shades should not be mixed, any one by itself being beautiful. Then there are daisies, nasturtiums, hollyhocks, cannas, and that most superb of all, roses. After the hardier varieties of roses are well started they require very little attention. Indeed I have seen some very old, large bushes growing for years in the hardest kind of soil without either water or pruning. Sweet peas, while they do need moisture, are not hard to raise and there is nothing more refreshing than a bed of them in the spring. They will bloom for weeks and reseed themselves for several years if they have any chance at all. They are one of the few kinds of brilliant flowered shrubs that are prettier mixed than in one shade. Their tints are so delicate that they rarely

if ever clash with one another, and form an exquisite dash of many colors in a garden.

With the thought in mind that it is not essential to an artistic front to have an elaborate one let us proceed to the first thing to consider in the arrangement of the yard. The very first consideration is the color of the house, of course. White, with red or green roof and green blinds or casings, is absolutely without equal. Add to this a low wide veranda across the front and you have an ideal setting with which it is really difficult to clash in your flowers if you use any judgment at all. The next choice is a plain grey or tan of a light shade. The less trimming on any house the better. Dark, intense colors, mixed colors or shades, or vivid glaring shades are a positive mar on the landscape and ruin the prettiest garden. A plot of grass even though it be small is almost essential. Blue grass is the best but if you cannot have water in the summer there are others more practical, among them being Bermuda. The University of California has, I understand, been trying out in lots different varieties of lawn grass and would, I am sure, be glad to give any one desiring it information on the best varieties not requiring water during the summer months. On a small lawn there should be no plants, beds or shrubs to interrupt the expanse as they only accentuate the fact that its small while a plain lawn assumes greater expanse. Around the outside edge a row of dark red geraniums set it off. Bright yellow nasturtiums are also good here or roses but as the geraniums are the most showy against the green of the lawn they are always most effective. Roses should really have a corner of the garden set off for them by themselves. Climbing roses over the porch add to the beauty of the yard and for this purpose some of the standard varieties are Crimson Ramblers, Gold of Offir or Cloth of Gold, Glory de Dijon, American Beauty. Wistaria, Honey-suckle and Snail Bean are likewise ideal porch climbers. If your front yard must be small and your back yard bare, a row of white and lavender lilacs across on each side of the house will shut off the displeasing back and form an artistic background.

FIRST FARMERS' CO-OPERATIVE LAUNDRY

The first farmers' co-operative laundry in the United States is now in successful operation at Chatfield, Minn., where it is doing much to eliminate for the over-worked farm woman the terrors of "blue Monday." Chatfield is only a small village and the laundry's patrons are almost entirely obtained from the open country around. Coarse clothing of all sorts, overalls, rugs, bed clothing, and fine fabrics as well are handled at a uniform price of 5 cents a pound for washing and ironing. An extra charge

is made for such articles as need to be ironed by hand. The laundry is managed in connection with a co-operative creamery, paying to the creamery a reasonable rental for the use of a part of its building. Modern machinery was installed at the beginning and an experienced laundryman engaged as superintendent. For the first year of operation, which has just closed, the receipts were \$5,403, 70 per cent of which was paid out for wages. Patrons received a dividend of 10 per cent and stockholders 6 per cent additional. The success of the innovation will, it is said, prove most encouraging to rural workers everywhere.

Lady Washington Cake—1½ cups of butter, 3 cups of brown sugar creamed together, 5 eggs well beaten and added; sift together 3 cups of flour, 2

teaspoons of baking powder, 1 teaspoon of cinnamon, 1 teaspoon of cloves, 1 teaspoon of nutmeg; add 1 cup of milk, 1 cup of chopped walnuts, 1 cup of raisins, and dredge in the dry ingredients last. Bake in a loaf or large flat pan.

OAKDALE IRRIGATED ACRES

WHY NOT SELL YOUR HIGH PRICED land and buy Finest Irrigated Lands in Stanislaus County on Ten Years' Time. 20-ACRE TRACTS, \$350 DOWN, \$350 YEARLY.

Ideal for Garden Truck, Alfalfa, Fruit, Dairying, Chickens. Ample water to high point on each tract. Only two miles City Oakdale, with three railroads, canneries, Creamery, markets, high school, two banks, two newspapers, good roads, splendid climate. Success and increased value assured. Every buyer satisfied and making good. Circulars free.

C. H. LEHMAN

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Do you realize the convenience and economy of the modern oil stove? The fuel—kerosene—is the cheapest you can get—clean, safe, easy to handle. The stove has been perfected until it is as good as a wood or coal range for any kind of cooking. The

New Perfection OIL COOK STOVE

will cook a quick, light breakfast for you, or it will cook a big dinner with roast and bread and pastry. The New Perfection doesn't overheat the kitchen. It doesn't smoke or taint the food. Think of the comfort of summer cooking in a cool kitchen. No wood or coal to lug; no ashes to dirty up the house. Why not ask your dealer to show you the New Perfection.

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Every piece cut in our mills absolutely to fit. We furnish lumber, trim, finish, paint, stain, doors, windows, nails, hardware and plaster or wall board for interior. Follow our numbered diagrams, and all you need is common sense and a hammer, to put the house together yourself, as good as any one can.

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We furnish any number of rooms and any design you wish. Send for catalog.

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flour better than

PHOENIX FLOUR

You cannot make a
mistake by using it

It has been made by the present management for over thirty years and has gained in popularity ever since.

FOR SALE AT ALL GROCERS. ASK FOR IT

PHOENIX MILLING CO., Makers, Sacramento, California

VETERINARY

Conducted by D. S. KAY, D. V. S.

Questions relating to the health of farm animals will be answered in this column free of charge. Address all communications to Veterinary Department, The Live Stock and Dairy Journal, Sacramento, Cal.

The Live Stock and Dairy Journal—I have a cow with a hard lump on the angle of her jaw. This lump has grown fast to the bone. How can I cure it and what is the cause? I have had cows affected this way before.

F. B. McG., Fresno County, Cal.

Your cow has in all probability an actinomycotic infection of the jaw bone. A fungus has entered by way of the mouth and attacked the bony tissue. This growth will have to be sawed off, scraped well, and painted with tincture of Iodine, twice daily. The cow should be given Iodide of Potassium in 2-ounce doses for two weeks, discontinued for a week, and then commence again. If a great portion of the bone is honey-combed with the disease, the operation will not be a success.

AROUND THE HOG PEN.

Keep the pens clean and dry to prevent disease among your hogs. Don't let drafts blow on the hogs. Drafts are fatal to them, causing pneumonia, rheumatism and various other ailments.

If your hogs are sick or not doing well, find out what the trouble is. It will pay. A squealing hog is not profitable. A contented hog grunts. Don't keep them in too small a pen. Exercise is essential to health. Give small pigs plenty of exercise. It may prevent thumps.

Give the sow and pigs plenty of room on the sunny side of a building. Colony houses for brood sows are more sanitary than a central house.

BLACK LEG LOSSES SURELY PREVENTED by Cutter's Blackleg Pills. Low-priced, always fresh and reliable, they are used by over 90 per cent of California and Western stockmen, because they protect where other vaccines fail. Write for booklet and testimonials. 10-dose pkgs. Blackleg Pills, \$1.00. 50-dose pkgs. Blackleg Pills, 4.00. Cutter's Blackleg Pill Injector, 1.50. Pills may be used in any injector, but Cutter's is simplest, strongest and easiest to use.

Every package dated, unused pills returnable for free exchange for fresh after date on package. Do not use old vaccine, or of uncertain age (ours or any other) as it affords less protection than fresh. Discount: 250, 500, 1000, 2000 doses, 20 p.c. insist on Cutter's. If druggist doesn't stock, order from Laboratory, giving address plainly. We prepay charges and ship promptly. Send personal check or M. O. THE CUTTER LABORATORY, BERKELEY, CAL.

THE BEST LINIMENT

OR PAIN KILLER FOR THE HUMAN BODY

Gombault's
Caustic Balsam
IT HAS NO EQUAL

For — It is penetrating, soothing and healing, and for all Old Sores, Bruises, or Wounds, Felons, Exterior Cancers, Boils, Corns and Bunions. CAUSTIC BALSAM has no equal as a Liniment.

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used in any case that requires an outward application with perfect safety.

REMOVES THE SORENESS—STRENGTHENS MUSCLES. Cornhill, Tex.—"One bottle Caustic Balsam did my rheumatism more good than \$120.00 paid in doctor's bills." OTTO A. BEYER. Price \$1.00 per bottle. Sold by druggists, or sent by express prepaid. Write for Booklet R. THE LAWRENCE-WILLIAMS COMPANY, Cleveland, O.

A Perfectly Safe and Reliable Remedy for Sore Throat, Chest Cold, Backache, Neuralgia, Sprains, Strains, Lumbago, Diphtheria, Sore Lungs, Rheumatism and all Stiff Joints.

If your little pigs are troubled with scours change the diet of the sow. Do not feed dirty, spoiled or sour feed. Thoroughly cook all meat scraps.

If hard, bony enlargements form on the hock joints of your small pigs, the chances are that they have rickets. Introduce some new blood into the herd and feed your pigs per each 100 pounds weight a mixture of calcium phosphate pulverized, nux vomica 2 ounces, artificial carlsbad salts 10 ounces.

For worms give 5 grains calomel and 10 grains santonin per each 100 pounds, followed in about six hours by a bran mash, or give 10 grains santonin and 20 grains areca nut after a twenty-four hour fast.

Follow some of your hogs to the packing house and see them inspected. It will pay in case they are tubercular. Use plenty of whitewash around the pens.

Isolate all sick hogs. Burn all dead ones. J. H. COFFMAN,

Veterinarian in Hog Cholera Serum Production, Idaho Experiment Station.

EGG PRODUCTION VERSUS COST

Most breeders know it costs a certain sum to produce each egg, the price varying a trifle according to locality, values of feed and ways of managing.

Some people vainly imagine that after eggs go to a certain price, the breeders are getting a surplus of cash, irrespective of the number produced daily by the flock. Other people think the breeders or producers fix the price of eggs, for such folks cannot see the logic of demand and supply.

Some people think all hens do, or can, lay the same in winter as in spring, especially when you talk of a 150-egg hen or better, for their imagination is higher in flights of fancy than they stand in the bill of fare of daily life.

Some folks talk of the high cost of living, and speak of eggs as being a prime factor in the matter, but they fail to see the parallel between demand for eggs and the inactivity of biddies in late fall and winter to supply that demand, but with the same old cost coming along each day to furnish biddie feed, whether she lays or not.

Some people sworn to protect our interests bring along the ghost of free trade, with a competition in egg production that has a dollar a week for expense bill to the needs of the entire family, believing that will help solve the cost of luxurious living for the mighty, but so it will until pay day comes for the multitude with the little cross.

Poultry Editor The Live Stock and Dairy Journal—What per cent of high protein generally would you feed to hens for egg production where there are quite some breeders that are desired to be kept. Thanking you for past favors. Yours.—H. I. S., Porterville, Cal.

From 10 to 12 per cent of high protein, such as good beef scraps, fish-meal, ground fresh bone, etc., in the mash daily where there are some breeders. Some supply more than that, but they are looking for egg production, and to sell the hens when the best of that is past.

C. G. McFarland, Tulare, Cal., in a change of advertisement in this issue, is offering a registered Jersey bull of tested ancestry at a very low price.

POULTRY

Poultry Editor Live Stock and Dairy Journal—I noticed in a recent issue of your paper an article entitled "The Lure of Distance," in which the writer says that there is as good stock in California as there is in any state in the United States, and that the "Lure of Distance" is responsible for the fact that breeders will send East for breeding stock.

Now, I consider myself a booster for California, but as yet I have not enough money to send right and left in the State of California when I want a good bird, as I can make doubly sure of getting what I want by sending to some reliable breeder in the East, and get a score card by some reliable judge on the bird in question.

It is hardly safe to send money to Tom, Dick and Harry, for although his intentions may be the best in the world, his ability to recognize a good bird may be limited.

In the East all fancy poultry is sold by the score card, and you do not have to take the breeder's word for what the birds you expect to get are. The judge scores the birds as he finds them, and you can generally rely on that he is honest, as he would have to be consistent to stay a judge for any length of time.

Supposing that I was breeding Barred Plymouth Rocks and needed a bird to correct a bad fault in my own pen. I write to a half dozen California breeders, and each one tells me that has just what I want. I must then close my eyes and trust one of them, and when the bird comes I find that he is not at all what I was after nor what I expected to get. What can I do about it? The best I can do is to "saw wood and say nothing," as the breeder has my money and it might be hard to convince him that he did not send me my money's worth.

A man may advertise that he has the best there is in some variety of poultry, and he may honestly think so, and he may go to the shows and win for the lack of competition and still his birds would not have a "look in" with some that were really good.

Some years ago at a poultry show at Idora Park, Oakland, I asked a breeder why it was that the score card was so much antagonized in the small shows, and also why breeders did not have private scoring done, and I think he "hit the nail on the head" when he said:

"If we had our birds scored we could only sell the best of them, and what would we do with our culls. You judges would cut the life out of them

and we would have to sell them on the market."

The specialty breeder who breeds one variety from year to year is a good man to buy of, providing that he has the nerve to cull, and cull hard, and send all of the unworthy specimens to the block, and is ready to make good any mistake on his part in the sale of birds.

Demand a score card with the bird you are buying by some reliable judge that you know is competent to pass on this variety, and it will be up to the breeder to see that the bird is scored, providing the request for that certain judge is reasonable.

All small shows held early in the season should be judged by the score card system, as then it will give the amateur a chance to find out just where they as to quality, and besides he can find out what the defects really are and what the penalty is.

A large poultry show, or better still, a State poultry show at or near the end of the season could then be judged by comparison, as by that time most

RAISE PIGEONS

They Pay Dollars while Chickens pay cents

The young, 20 to 25 days old, sell for 40 to 60 cents each (according to the season). The city markets are always clamoring for them.

Each pair of Pigeons will raise 18 to 22 young a year.

They will clear you, above all expenses, \$5.00 a year per pair. They breed the entire year. Twenty minutes daily will care for 100 pairs.

Always penned up out of the way. Very small space required.

All this is fully explained in this month's issue of our Journal; send for it; price 10 cts.

Reliable Squab Journal, Versailles, Mo.

Leghorns & White Rocks



I have some choice stock for sale. White, Brown and Buff Leghorn year old hens and cocks, good breeders, at reasonable prices. I can furnish birds for exhibition also.

White Rocks, Fitch Strain, good birds for sale reasonable.

JAMES D. YATES, Expert Poultry Judge, Modesto, Cal.

Incubator Chicks

White, Buff and Brown Leghorn, Black Minorca, White Rock. All high-class stock. Send for Booklet of prices.

H. S. KIRK

P. O. BOX 597, SACRAMENTO, CAL.

DR. WHEELER'S SPECIFIC No. 1

Is THE REMEDY for contagious diseases of poultry, such as roup, catarrh and chicken-pox. Thousands of good breeders state so. I have letters to prove this, besides my many hundreds of treatments with flocks of customers. Prices, \$1.05 and \$2.10 by mail.

THE REMEDY "PREVENTION"

Is just the finest for all troubles of chicks up to two months of age, especially white diarrhoea. Prices, 50c and \$1; not stamps.

PICK OUT YOUR DRONES OF HENS

That do not lay good, by the book, "The Call of the Hen." The system is plain, simple and fine. Now sold at reduced price of \$1.50, or a year's subscription to The Live Stock and Dairy Journal and this book for \$2.00. Send orders to

J. E. HOLT

R. 4, BOX 281

LOS ANGELES, CAL.

of the birds had been through the "mill," and it could be styled "The Experts' Show." "WILDWOOD," Merced County, Cal.

Reply—I like honest criticism like the above, and was hoping at first glance of the letter that for once I would be found wrong somehow, but I must state facts.

A score card is not used now except at some small shows. It is out of date, and when commenced it was at Madison Square Garden—the comparison shows to save time. Also other rules have been lately made by the American Poultry Association as to private scoring.

If the score card was used regularly it would be no good as to a sale of a bird, as far as honesty was concerned, for a bird changes right along, the score card is fixed and applies to the day of judging, but what is to prevent any breeder from changing the leg band to an inferior bird? So, is the score card of such value as to give a guarantee that the bird sent will be par excellence, or even fine? Does the judge give a written or oral guarantee that the bird will be the same in fine qualities after it leaves his hands? I am sure that location has nothing to offer as a guarantee for honest dealing, so that there can hardly be more irresponsible people on this coast than out East. In fact, locate me in the State of California if any chances are to be taken.

The breed, Barred Rocks: If the show of 1913 at Oakland and the one of 1914 at Los Angeles had been attended by those who did not attend they would have certainly agreed with the people who saw that class and said it was the finest aggregation of superb birds ever shown, East or West, and the judges were not only regularly licensed men, but judges who knew their business in all details. I can vouch for quite a number personally on these points. It was believed all these fine birds were bred on this coast.

Having an inside knowledge of the poultry business in different sections of this country and this State, being in personal touch frequently with many reliable breeders on this coast, seeing often the flocks, large and small, attending different shows, knowing personally some of the best judges and knowing by correspondence and other ways what is being done in this business in different states and other countries, if I had to think of taking any chance for money sent I would take that chance with the breeders in this State, because of the many facts that have come to my notice, of which the two following can only be allowed in space at present.

Two well known breeders here sent \$50 each out East to a supposed responsible firm that had a big way of advertising, asking for two good show birds, same age, same breed, price, and both birds from same firm. When birds arrived one was a fine one that won all before it at the later show, but the other bird was nothing in comparison, still to try it the man placed it in the show, and it did not get a look. Where was the responsibility, and could that breeder do anything more than saw wood and say nothing, or rather would it not have been easier to obtain redress if so desired had the same been shipped from this State?

Another: A well known firm of breeders here sent \$50 for a show hen to a well known firm of breeders out East, and when it arrived it was not even taken from the express office—not worth \$5—but shipped back with a demand for the \$50. The result, no money returned, and the case is now pending before the postal authorities. These are facts that can be proved, and many more similar.

But if a man is breeding fine stock for show or for sale, whether as a side line or as a solid business proposition, it is his duty to himself and

family to find where the best breeders of fine stock are located; it is his duty to his business to know exactly where to put his finger on the map and send for any stock he wants to replenish his flock with, and it is his duty to his finances to know the nearest breeders, to keep in touch with them, to attend all shows possible and not allow some years to pass without his attendance. He should even get further to promote his own interests. He should know approximately what the express charges would amount to per hundred from prominent places, and all this requisite information need not cost a lot of time and money, as I have personally proved in the past years.

From a general knowledge of human nature it stands as a fact that the majority allow the "Lure of Distance" to influence them in making up their minds to get many birds from a distance when they could get as good or better nearer, and the fine birds of California in domesticity can hold up their heads and crow loud and long in competition with the world of show birds of same species, with no fear of being downed, for what I state and write are facts, as a poultryman and specialist who is in close touch continually with the situation.

J. E. HOLT.

Poultry Editor The Live Stock and Dairy Journal—Please tell me in the next issue of the Journal how to feed and care for young turkeys and geese. —Mrs. J. T. Shelly, Idaho.

For young turkeys give nothing for the first forty-eight hours, then begin with a little of equal parts of cracked wheat and steel cut oats, with a little fine grit mixed in, a little at a time as one feed. In about three hours feed a little crumbly mash of bran and oatmeal with fine cut onion tops and a trifle of sand, and if hard boiled egg chopped fine is added to this it will be all right, but not much of that. Continue these alternately for four small feeds daily for about two weeks, a little at a time and not all they will eat at once. Increase the ration in quantity as they get older, and finally get them to three feeds a day. Give lettuce or short alfalfa as soon as they will eat it—all they want. Never corn or corn meal till they get red combs. To mix the crumbly mash with sour milk is good. When they get over two weeks old 3 per cent of good beef scraps and 2 per cent of bonemeal can be added to the mash with good results, or a trifle fresh meat chopped fine in the mash several times a week.

For young geese you can give the same, except hardly any grain, more mash, larger portions at a time, and geese are abundant eaters of green stuff at any age, grass or alfalfa, and the grain feeds must be few and far between during growth to get best results. Do not forget sand in mash for both turkeys and geese, or your troubles will come in indigestion or worse. Plenty of clean water to both. Warmth during the first two weeks, and do not allow either out in morning if dew is on the ground. Let the sun get power and have them in early in afternoon. They are easily chilled.

Poultry Editor The Live Stock and Dairy Journal: I have some hens that have a whitish scale on the combs, and some of the worst have small scabs forming, but not quite like chicken-pox. Please tell me what to do, and what is the cause. Oblige.—M. T., Blythe, Cal.

The chickens have a type of the disease called favus, generally bought on by lack of cleanliness in the yards. It is contagious from one to the other, will cause a dropping of egg production, and if allowed to progress will sap the vitality of the flock. Clean up thoroughly, disinfect the runs and houses and rub on the parts affected a solution of sweet oil and sulphur. It may take a second application.

Congestion of Brain, Etc.

Poultry Editor The Live Stock and Dairy Journal—Have about 400 White Leghorns. Lost several 2-year-old hens with the staggering sickness. Has the feed anything to do with it? I would be very thankful to have your opinion about it. I feed a dry mash—1 part bloodmeal, 1 part Soy bean meal, 1 part feed meal, 1 part Soy bean meal, parts bran, charcoal and a little red pepper. Rolled barley in the morning, at 11 o'clock hulled oats and at night wheat and Kaffir corn, as much as they want. Keep dry mash before them all day. They have been good layers. I have several hens with a bony growth at the head. It is red and hard. For greens I feed clover. They have an open front house, are yarded now. The yard had been plowed and sowed to barley. Is asafetida a good all around medicine for poultry. If a private letter is too much to ask for I will watch for your kind answer in your next number. Thanking you in advance, I am yours, Respectfully—Mrs. E. F. Napa, Cal.

I believe the hens die from congestion of blood on the brain by too rich feeding. If you change materially they will drop in egg production. If you feed the same a few will, at intervals, die. Give all grain in deep litter, change gradually, give a little less each week till you get to a good, big handful of grain daily to each one. Gradually add bran to make 8 parts of that with same parts of the others as now giving, but leave out the red pepper.

Write again with return postage and give more details of the bony growth—where located on head, if it comes to pus, and size of it, as the symptom given is not sufficiently to rightly diagnose. Asafetida as a medicine is right in certain cases, but is not an all around remedy. In fact, as a specialist in poultry disease I know of no all around remedy or medicine, but what I advise is plenty of greens and lots of clean water and sanitary surroundings. If a remedy is required write me what the symptoms show, then I can fully advise with more surety to use the remedy suited. When return postage is enclosed, as in your case, a personal reply will be mailed as early as convenient, for I am pleased any time to help poultry raisers with best advice free. The plowing and seeding of the land are good.

Poultry Editor The Live Stock and Dairy Journal—Would you please be so kind as to tell me what will kill and rid my poultry yards of sand fleas? They cluster about the chickens' eyes. Yours truly.—R. D. J., Oilfields, Cal.

Make a strong salt-lime wash, boil the salt in water, then add lime, sprinkle freely of this solution around the yards. A week after scatter some slaked lime around. This generally stops them as long as there is lime on the soil. For the stick-tight fleas on chickens' heads, take half melted lard and half carbolic vaseline and swab a little on the heads, not near the eyes, and not on chicks of two months or less.

Classified Advertisements

Rates: Two cents per word each issue. Minimum, 50 cents.

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SECOND-HAND PIPE.

Very best quality of selected Second-Hand Water Pipe and Standard Screw Casing. For quality and low price you make no mistake when buying water pipe of the Weissbaum kind. Largest pipe works in the West.

WEISSBAUM PIPE WORKS,
162 ELEVENTH ST., SAN FRANCISCO.

POULTRY.

EGGS FOR HATCHING—PUREBRED Stock. Buff Orpington, and Buff Cochins Bantam, \$2.00 per 15; Toulouse Goose, 25c each; Pekin Duck, \$1.50 per 12; Pearl Guinea, and China Pheasant, \$1.50 per 15. L. R. McCoy, R. 1, Box 205, Stockton, Cal.

FOR SALE—Pure Silver Laced Wyandottes, Buff Leghorns, Barred Rocks. Eggs. Mary Carlson, Camino, El Dorado Co., California.

BUFF MINORCA hatching eggs, \$2.00 and \$3.00 per 15; \$10.00 and \$15.00 per 100. Barred and White Rocks, Andalusians, R. I. Reds, eggs \$1.50 per 15, \$6.00 per 100. Runner Duck eggs \$1.25 per 15, \$4.50 per 100. Buff Minorca cocks and cockerels for sale. Also have left two trios. Get orders in soon. Visitors welcome. Cedarhurst Ranches, R. 3, Sacramento, Cal.

BABY CHIX AND EGGS—From grand laying strain of S. C. Rhode Island Reds. INWOOD POULTRY FARM, Box 192, Folsom, Cal.

S. C. RHODE ISLAND REDS exclusively. Stock and eggs for sale in season. H. E. HILL, R. 6, Hanford, Cal.

PRIZE HOUDANS—Catalogue now ready. MRS. EMMA F. REID, R. F. D. 4, Box 54, San Jose, Cal. Life member American Poultry Association.

BARRED PLYMOUTH ROCKS—Winners at Fresno, December 4-7, 1913, first and third pens; first, second, third and fourth pullets; third and fifth cockerels. Stock for sale, also eggs from above winning females. W. L. KENNEDY, Box 203, Fowler, Cal.

INCUBATOR CHICKS—White, Buff and Brown Leghorn, Black Minorca, White Rock. All high-class stock. Send for booklet. H. S. KIRK, P. O. Box 597, Sacramento, Cal.

R. I. REDS exclusively. Eggs \$6 per 100; Chicks \$15 per 100. Cash with order or stamp for reply. L. W. Neilson, R2, Box 1, Petaluma, Cal.

LIVE STOCK.

PUREBRED REGISTERED PERCHERONS AND BELGIANS—A few choice young stallions from 3 to 5 years old. Also 3 and 4-year-old Percheron fillies for sale. LOS ALTOS STOCK FARM, Los Altos, Cal.

HOLSTEIN BULLS—Pure bred young Holstein bulls for sale on Thompson Ranch, near Napa. For prices and particulars, address J. B. Agee, Napa, Cal.

DAIRY AND STOCK FARMS.

Victoria, Australia, Wants Settlers

Special inducements; government land, railways; free schools; cheap irrigation; 31 years to pay for farms adapted to alfalfa, corn, grains, fruit, etc.; climate like California; ample markets; reduced passages; special excursion next November. Free particulars from F. T. A. FRICKE, Government Representative from Victoria, 687 Market St., San Francisco, Cal., Box V.

83 ACRES, out of which 65 are planted in alfalfa, irrigated; no improvements.

153 Acres, out of which 60 are planted in alfalfa, irrigated; no improvements.

56 Acres, all in alfalfa, irrigated.

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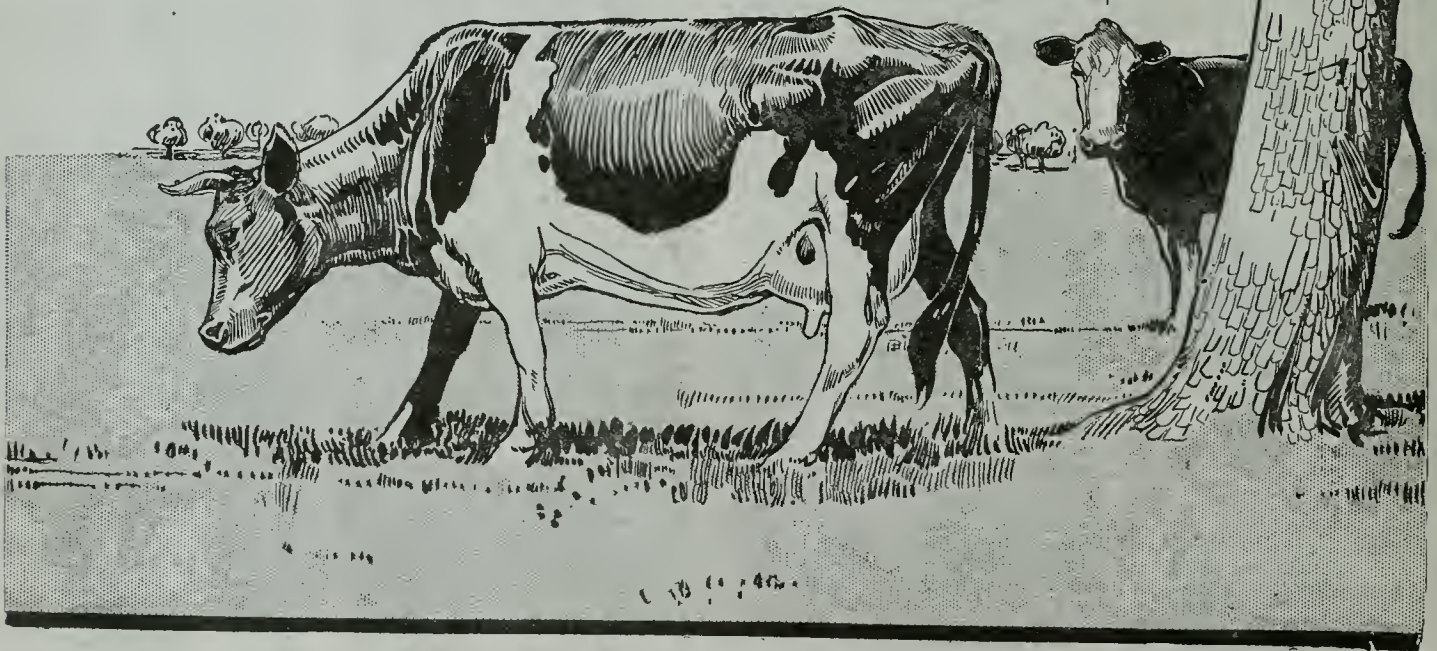
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SHEEP ON THE SMALL FARM

It has long been recognized that a small band of sheep on a fruit farm or general farm is an excellent means for cleaning up weeds and small grains that would otherwise go to waste, and turning them into profit. But the time seems at hand when the owner of small acreage that is adapted to alfalfa may well look to sheep raising as a profitable business. In spite of the removal of the tariff on wool, prices this year are the highest except once within the past twenty-five years, and mutton is correspondingly high. Sheep are not particularly susceptible to epidemics, and while they require intelligent attention, yet they are easily handled as compared with other kinds of farm animals. Good alfalfa land will carry from ten to fourteen head of sheep per acre, and the profit per head will depend very greatly upon the thoroughness with which the flock is selected and handled.

PAINE BECOMES SECRETARY OF CALIFORNIA AGRICULTURAL SOCIETY

Charles W. Paine has been appointed Secretary of California State Agricultural Society. Mr. Paine has served a long term as a Director of the society, and has a large practical experience at his command in the carrying on of the work of his new office. Each year the scope of the society's work has enlarged, and as the great mass of detail falls upon the Secretary, the position demands systematic and tactful work. Mr. Paine is well fitted to fill the position, and is particularly experienced and well informed as to the requirements of exhibitors at the State Fair.

A WORTHY BREED THAT HAS NOT RECEIVED PROPER ATTENTION IN CALIFORNIA

There are only a few herds of registered Ayrshire cattle in California, and there are many localities where this breed might be taken up by dairymen possibly in preference to any other,

when profitable results are desired. The Ayrshire is a particularly hardy breed of cattle, they are remarkably good grazers, and would be the logical cattle to use on many of our foothill and mountain dairy farms. Very satisfactory results have been secured by breeding grade Shorthorn cows to registered Ayrshire bulls. The result of such breeding is a large cow of somewhat more size than the average registered Ayrshire cow, and when the dam is a fair milk producer the daughter is usually better. The Ayrshire bull almost invariably stamps his color and breed type upon his offspring out of grade cows no matter what the color or type of the dams may be. There are quite a large number of very good dairy cows in Arizona that are the offspring of grade Shorthorn dams and registered Ayrshire bulls, and numerous inquiries that we have made brings out the fact that they are very creditable producers of milk testing up around 4 per cent.

EIGHT-HOUR LAW AROUSES FARMERS

The farmers of California have quite generally awakened to the peril of the eight-hour law to be voted on this fall, and organizations are coming into from all over the State to oppose it. There must be no letup in active opposition until election day is over, and the proposed law has been defeated. The enactment of this law would unquestionably force a great many farmers out of business, and would so affect the business of many others that their establishments would be unprofitable. It would lower farm land values in California to such an extent that it would bring about a loss of many millions of dollars in that way alone. And to offset these losses, no one would be benefited in the least. It may be possible in highly specialized trades to eliminate waste motion and introduce methods that will enable a skilled worker to do as much work in eight hours as he formerly did in ten, but that principle can certainly not be applied to the average California farm worker at the present time. Pacific Coast farmers today pay the highest wages for farm labor that are paid in any similar area in the United States, and any one who has observed farm labor in various sections of the country knows that available farm labor on this coast is quite a deal below the rest of the country in efficiency. Our salvation up to the present seems to have been found in the fact that our climate permits the carrying on of farm work every month in the year.

DEMAND FOR BEEF CATTLE

There is a very brisk demand for beef cattle all up and down the Pacific Coast this year. This applies both to range stock and purebred breeding stock. Quite a number of registered herds have been brought out from the East and middle West within the past six months, and there will be many more before the year is over. Our breeders of purebred beef cattle have been unable to supply the demand for bulls for quite a spell past. The experience of one breeder is a very fair index to the general situation. This breeder has a registered herd of beef cattle of a breed that is not as well known on the coast as some of the other breeds. About four years ago he found it impossible to sell his surplus bulls, and as a result they were all castrated. Three years ago he began to have some demand for breeding bulls, and for the past two years he has been away short of bulls to fill his orders.

Not only are more men taking up beef cattle as a market for alfalfa and other crops, but the ones already in the business are rapidly turning to the purebred bull after years of experience with the scrub. When it is possible

to add 50 per cent to the weight of steers solely through the proper use of purebred beef bulls, as has been done on the Parrott ranch in Butte County, within a period of six years, it is high time for the beef raiser to sit up and take notice of the kind of bulls he buys. The fact that many are sitting up and taking notice is one of the chief causes for a purebred bull demand that far exceeds the supply. It is just as safe to predict a shortage of beef bulls again this fall as it is to say that the sun shone yesterday, and from every source of information at our command there will be the greatest demand for registered beef bulls on the Pacific Coast this fall that has ever been known. Our coast breeders can certainly not meet the demand from their own herds, and it looks as though it will be up to them to bring in bulls from across the Rockies to supplement the visible supply here. Remember that last summer the Journal advised bull buyers to get in early, and those who took the advice profited by it. We advise very early buying this year, for the situation is going to be even more acute than last year. We advise every prospective buyer of beef bulls to write now to the breeder from whom he intends to buy, stating his requirements, and this applies especially to the buyer who will take one or several bulls, or, in fact, any number under a carload.

HOGS ARE PROFITABLE

Conditions in California have been such that we have been importers of nearly everything except fruit, and millions of dollars has gone out of the State to be expended upon labor in the East, and we have received the equivalent in manufactured goods. There has been an excuse for a large percentage of this money going out of the State, owing to conditions which surround the average manufacturing business. Lately we have begun to establish some manufacturing plans of our own, and coast insurance companies have checked the eastward flow of many more millions of dollars.

But just think of the State of California, with all its thousands of acres of alfalfa, an abundance of barley which has been proved to be equal to corn as a hog feed, going East every year to buy more than \$20,000,000 worth of pork and pork products! There is a case where \$20,000,000 more per year might better be in the pocket of the California farmer, and could be there if enough of him would make the resolve to raise a few hogs. We believe that there is actually enough feed wasted in the State every year to nearly, if not quite, make \$20,000,000 worth of pork. In a year like this when barley is low, alfalfa is low and pork is high, the hog is one of the most profitable crops we can possibly raise. We could raise our present pork production with the same number of brood sows that we now have if every hog raiser would use nothing but high quality purebred boars, but even then we would fall far short of filling our home market. What we need is a whole lot more hogs, with a whole lot more quality than the ones we now raise.

BIG LIVESTOCK SHOW AT STATE FAIR

We judge that the 1914 California State Fair will have the biggest and best display of registered live stock that it has yet had. There are several herds that will be missing from their last year's location, but many new herds are promised. During the past three years the Directors of State Agricultural Society have solicited suggestions from live stock exhibitors which would result in greater convenience and a better show. Practically every worthy suggestion made has been adopted, and as a result there has been a greatly increased interest

in live stock exhibits. We are never going to have anything approaching ideal conditions for exhibiting live stock at Agricultural Park until we vote for those bonds this fall and get the money necessary to enlarge the grounds and erect suitable housing. However, that is a matter to be looked after at election time this fall. In the meantime Agricultural Park is in the best condition that it ever has been to take care of live stock exhibits. Come on with your entries for 1914.

LOOK OUT FOR THIS ONE

The initiative and referendum are being used for commercial purposes in this State by certain promoters of a statute to permit the sale of all game, including deer and quail.

The commission men and French restaurant keepers of San Francisco are the parties most interested. If the plans of these two commercial interests carry, the wild game will disappear very quickly from within the borders of this State.

The Federal Government and neighboring states have passed protecting laws, and all the states bordering on California have enacted the "No Sale" of game laws. Deer have not been sold in the markets since 1893 and quail have not been sold since 1901, but an initiative petition is now being circulated by the larger hotels, restaurant keepers and commission men to place all our game on sale and allow it to be slaughtered by the market hunters.

The attention of the public is called to this matter so that they will not sign the initiative petition, which is now being circulated and, if carried, would be a step twenty-five years backward and a disgrace to the State of California.

Will you not call the attention of your neighbors to this commercialization of the election law and to the sure obliteration of quail, deer and other game if the city hotels, restaurant keepers, commission men and market hunters are successful in accomplishing their ends.

FIFTEEN BEST COWS

In the comparison of dairy breeds it is always interesting to note the production of the highest testing cows, and the following table shows the records of the fifteen highest producers of butter-fat, under official tests for a period of one year:

Name and Breed.	Pounds Butter-Fat.
May Rilma, Guernsey.....	1,073.41
Banostine Belle De Kol, Holstein.....	1,058.34
Pontiac Clothilde De Kol 2d, Holstein.....	1,017.28
Sophie 19th of Hood Farm, Jersey.....	999.27
High Lawn Hartog De Kol, Holstein.....	998.34
Colantha 4th's Johanna, Holstein.....	998.26
Spermiel Owl's Eva, Jersey.....	993.25
Eminent's Bess, Jersey.....	962.82
Spotswood Daisy Pearl, Guernsey.....	957.38
Jacoba Irene, Jersey.....	952.96
Olympia's Fern, Jersey.....	937.33
Miranda of Mapleton, Guernsey.....	927.16
Creamelle Vale, Holstein.....	924.68
Auchenbrain Brown Kate 4th, Ayrshire.....	917.60
Aralia De Kol, Holstein.....	913.86

The value of these yearly records is of the utmost importance in breeding operations. While the short time records, up to 60 days, still have a certain value in determining production, it is an established fact that the big 7-day producer is not always a big yearly producer. Dairymen who are buying bulls to use in constructive breeding in their herds are looking more and more for yearly records, and place less weight than formerly upon the high 7-day or 30-day record.

SHEEP

Silage as a Sheep Feed

(By J. E. Poole in the National Wool Grower.)

[Corn silage is rapidly taking its place as one of the greatest factors in Pacific Coast feeding operations. There is a widespread interest among sheep owners as to the merits of corn silage as a sheep feed. While the following article deals very largely with conditions in the corn belt states, yet much of the information is applicable to Pacific Coast conditions, and it contains the reply to numerous inquiries along this line that have been directed to the Journal within the past few months.—Ed.]

All over the corn belt, feeders, both of cattle and sheep, are confronted with a serious problem. Simultaneously with the advance in stocker cost the feed bill has worked to a prohibitive level. Hence reduction of cost of gain making has become imperative. What influence the use of corn silage will have on cheapening the finishing process is somewhat conjectural. When the National Wool Grower requested me to prepare an article on this topic of paramount importance, I concluded to move along the line of least resistance. At the Illinois Experiment Station, Professor W. C. Coffey, an indefatigable investigator of national reputation has been delving into the mysteries of breeding and fattening the bovine species and the following interview with him is calculated to throw more light on the subject than any information that could be garnered. I will merely quote the Illinois investigator verbatim:

"In recent years corn silage has stirred up more inquiry among sheep feeders and flock owners than any other feed. Of the great multitude of questions raised, the following are the most frequently asked:

"How should silage for sheep be made? Should it be sour and sappy, or should it be comparatively dry and sweet? Should it be cut fine or coarse? Is silage a good feed for fattening sheep and lambs? Is it a good feed for breeding ewes? As applied to both fattening sheep and breeding ewes how should it be fed? That is, can it be the sole feed in the ration or can it be fed with grain or should it be fed with both grain and a dry roughage? What quantities of silage can be fed, and how much ought to be fed to fat-

tening sheep and to breeding ewes? How long does it take to get a maximum amount of silage in the ration, and how long can this maximum amount be retained? Does silage cheapen the ration for fattening sheep? Can greater gains be secured with silage in the ration than with rations composed entirely of dry feeds? Does silage add to or detract from market finish? Does it put ewes in better condition for lambing than a ration composed of dry feeds? Does it increase the milk flow of suckling ewes? What are the injurious effects of silage and what are the causes of these injurious effects?

Making Silage for Sheep.

"Persons who have had experience in feeding silage to sheep are generally agreed that it should be made from well matured corn. The grains of the ears should be well dented (if the silage is to be made from dent corn) and the whole corn plant should be ripe enough to cut for fodder. The silage made from such corn is sweeter and drier than that made from greener corn, and it seems that sheep do better on it than they do on the green, sour silage.

"If the silage is cut fine it probably packs down closer in the silo than if it is cut coarse. Granting that such is the case, the fine cut silage would very likely contain less acid than that which is cut coarse because of the fact that it packs down closer and shuts out more of the air which is necessary for the formation of acid. Then, too, the sheep will undoubtedly waste less of the silage if it is cut fine. The late John Dighton or Monticello, Illinois, was an extensive sheep feeder and was successful in feeding silage. It was his motto to cut it as fine as possible. He accomplished this by keeping the knives very sharp, and by using as many as were provided for on the cutters. He secured a comparatively sweet and dry silage with a minimum amount of mold and rot. The readiness with which the sheep ate it clearly demonstrated that it was palatable.

How to Feed Silage.

"Experiment stations began experimental work with silage as far back as the '90s. The Michigan, New York and Ontario stations demonstrated that it could form a part of the ration for fattening lambs. At a comparatively early time a number of commercial feeders also began to use it, and in reviewing agricultural literature we find that Joe Wing was one of the early advocates of it as a part of the fattening ration. In more recent time the experiment stations of Indiana, Missouri, Iowa, Wisconsin and Illinois have endeavored to determine under what circumstances silage can be used to best advantage. I do not recall that

any of the experiment stations have endeavored to make it the sole ration for fattening purposes. In fact, it would not be feasible to consider it in this light because it is so bulky. However, we have heard of a few commercial feeders who became so enthusiastic about silage that they endeavored to use it in this manner for fattening, and we believe that without exception they were disappointed in the results obtained.

"The question now arises as to whether or not silage can be fed with concentrates without employing any dry roughage. Evvard of Iowa fed shelled corn, cotton seed meal and silage during the winter of 1912-13 to three lots of western lambs. The highest rate of gain in any lot was .163 pound per head per day, while in three lots receiving corn and alfalfa hay the lowest rate of gain in any lot was .264 pound per head per day. From this experience Evvard drew the conclusion that the feeder should not depend entirely on silage as a roughage.

"During the winter of 1910-11 the Illinois station fed a lot of western lambs 84 days on shelled corn, cold pressed cotton seed cake and silage during the last half of the experiment. Clover hay was fed in comparatively small quantities along with the grain and silage during the first half of the experiment. The gain was .26 pound per head per day, while in a lot which received nothing but corn and clover hay the gain was .3 pound per head per day. A lot that was fed shelled corn, linseed oil cake and silage during

the last half of the experiment made less than .25 pound per head per day. In this experiment it was noticeable that the lots receiving no hay during the last half of the experiment were very erratic in gains toward the close of the feeding period.

"In the main, experiments indicate that silage should not be depended upon as the sole roughage in the ration for fattening sheep and lambs. Therefore, it would seem that if silage is to be fed at all, it should be fed in conjunction with grain and a dry roughage. I think this is the conviction of practically all of those who are making a serious study of silage as a sheep and lamb feed.

"It has not been definitely settled as to what dry roughage can be advantageously used with silage. Evvard suggests that some leguminous hay should be fed along with shelled corn and silage to fattening lambs. However, in feeding a carload of yearling wethers, the Illinois Station found that although shelled corn, silage and alfalfa made slightly greater gains than shelled corn, silage and oat straw, there was practically no difference in market finish and because oat straw was so much cheaper than alfalfa, the combination containing oat straw returned a greater profit than the one containing alfalfa. I have just recently received a communication from one of the large sheep feeders in Illinois, and he tells me that his 4000 lambs are doing splendidly on corn, silage and oat straw; hence, it may be that any dry roughage commonly fed on

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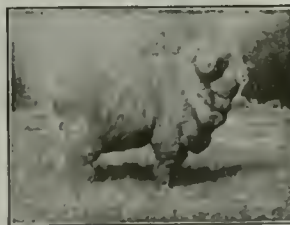
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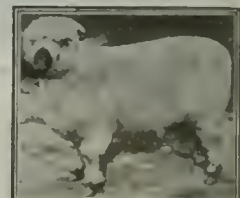
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our farms can be used with the corn and silage to put on a satisfactory market finish.

"If we assume, as I think we may, that silage in order to be efficient as a part of the fattening rations should be fed with grain and a dry roughage, the question which next arises is how much of it should be fed? In reviewing experiments of recent date we find that the Missouri Station fed yearling wethers an average of .8 pound per head per day, through a feeding period of 98 days. The Illinois Station 1.6 pounds through a feeding period of 84 days. J. Orton Finley, one of the most successful sheep feeders in Illinois, states that by allowing his sheep about all the dry roughage they will eat, he has never been able to feed more than two pounds of silage per head per day, at any time through the fattening period. In feeding lambs, Evvard fed an average of 1.94 pounds per head per day, through a period of 120 days. However, this was in the experiment where no roughage was fed in conjunction with the silage.

"During the year 1908-09 the Illinois Experiment Station attempted to determine what quantities of silage should be fed with shelled corn and clover hay. The experiment dealt especially with the amounts of silage that can be safely fed to western lambs. Without discussing this experiment in detail it may be stated that the lambs which received the largest amount of silage made the largest gains, and that there were no bad effects from the silage. It was possible to feed an average amount of two pounds per head per day for 105 days and the greatest amount it was possible to feed at any stage of the experiment was 2.6 pounds per head per day. In order to feed 2.6 pounds the amount of corn should not be more than 1.6 pounds and the clover hay .6 pound per head per day.

"In a subsequent experiment which continued over 98 days it was not possible to get the lambs to consume a

greater average amount than 1.28 pounds per head per day. The marked difference between the consumption of silage by the lambs of the two experiments leads one to surmise that either different lots of silage are different in palatability or that different hands of sheep are markedly different in their liking for this feed.

"After several years' experience, Joseph Wing and his brother Willis announced that they did not consider it safe to feed sheep and lambs more than 2½ pounds of silage per head per day, and it would seem that this advice is sound.

"There is some difference of opinion as to how rapidly silage should be introduced into the ration. It has been successfully introduced in two ways. One is to begin with very small amounts and gradually increase until the animals receive all they will eat. The other way is to give them about all they will eat at the beginning of the feeding period. King of the Indiana Station has been very successful with the latter procedure and it would seem that the experimenters who have begun with very small quantities have perhaps been too cautious. It has been our method to begin with very small amounts and to increase the silage gradually until far along in the feeding period, the assumption being that it is a feed which will injure the animals if in large quantities before they are well accustomed to it. From King's experience it would seem that this assumption is not justifiable. However, if I am correctly informed concerning King's methods he does not feed much grain until several weeks after the feeding period begins and after a time he reduces the quantity of silage in the ration, while with the writer it has been the practice to feed grain from the beginning, and to increase the quantity of silage in the ration as long as possible.

"Feeders frequently ask whether silage should be fed once or twice a day. It is my opinion that it should be

fed twice a day, as I believe it will be consumed with more relish if fed in moderate quantities along with the other feeds than in a large quantity once a day. However, those who practice feeding but once a day have an advantage from the standpoint of the less labor and trouble involved.

"Here at the Illinois Station, where we have always used combination grain and hay racks it has been our practice to feed the grain first, then follow with the silage and finally with the hay. The hay was usually placed in the racks before the silage was consumed and the lambs had an opportunity to choose which they would eat first. We once tried placing the silage on top of the grain, but we discontinued the practice because some lambs, getting more than their share, were inclined to nose down through the silage and consume the grain, while the others ate the silage. This resulted in some lambs getting more than their share of grain. Having had this experience we feel that it is not advisable to try to feed the grain and the silage at the same time, and this is about the only positive conviction we have concerning the way silage should be given in relation to other feeds.

The Efficiency of Silage for the Production of Gains.

"In practically every case where silage has been fed in conjunction with a concentrate suitable for fattening and a dry roughage, a good rate of gain has been made. The Missouri Station secured a greater rate of gain on western yearling wethers with shelled corn, silage and clover hay than with corn and clover hay, but the market finish was no better and the dressed percentage yields were not so good.

"Last year in feeding western yearling wethers, the Illinois Station secured no more gain with shelled corn, silage and alfalfa than with shelled corn and alfalfa, but much better gains with shelled corn, silage and oat straw than with shelled corn and oat straw. It seems that silage when fed with corn and leguminous hay is not constant in its influence on gains. For example, in two experiments at the Illinois Station shelled corn, silage and hay did not produce quite as much gain as shelled corn and hay, while in a third experiment which dealt with various amounts of silage in the ration of lambs receiving corn, silage and hay the lambs fed on silage made greater gains than those fed corn and clover hay, and the larger the amount of silage fed the larger was the rate of gain.

"King of the Indiana Station has not found silage when fed with corn and a leguminous hay appreciably more efficient in the production of gains than corn and hay, and Robbins of Iowa had about the same experience. Therefore, it is doubtful whether silage fed in conjunction with corn and clover or alfalfa hay will produce any greater rate of gain than merely corn and hay. It would seem that the two combinations are about equally efficient in the production.

Efficiency of Silage as Measured by Cost of Gains and Market Finish.

"Since silage does not detract in rate of gain when fed with corn and clover or alfalfa hay, and since it is a comparatively cheap feed nearly all experimental work shows that it has been influential in reducing the cost of gains. It is in this respect that it seems a useful feed to use in the rations of fattening sheep and lambs. For example, in practically every instance we have found that silage fed with corn, clover or alfalfa made a ration which produced cheaper gains than one composed of corn and hay only.

"In the majority of cases silage has had no adverse influence on market finish. By this is meant that the shrinkage enroute to market and the killing qualities of silage fed sheep and lambs are about the same as those

finished on corn and leguminous hay. As noted above, the Missouri station found that yearling wethers fed silage did not dress out as well as those that were fed corn and clover hay. At the Illinois Station lambs fed corn and clover hay shrank 5.3 per cent in shipping to market, while lambs fed corn, silage and clover hay ranged from 3.9 to 5 per cent in shrinkage. From this it would seem safe to say that lambs receiving silage are not inclined to shrink any more than those which are fed on dry feeds. Also at the Illinois Station it was found that lambs fed on dry feeds (corn and clover hay) dressed out 52.7 per cent carcass to live weight, while lambs receiving silage along with these feeds dressed from 52.2 to 53.6 per cent. This range in dressing would also justify the statement that silage fed lambs do not dress lower than lambs receiving dry feeds.

"Taken as a whole experimental work with silage as applied to fattening sheep and lambs permits of the conclusion that it is a useful feed if fed with a grain suitable for fattening and with a dry roughage; that the roughage favored most are clover and alfalfa hay; that silage is a useful feed when fed in the manner described above because of its low cost rather than because of its influence upon the rate of gain.

Silage for Breeding Ewes.

"There is more or less uncertainty in the minds of investigators and flockowners as to the value of corn silage for breeding ewes. A number of years ago when silage was a comparatively new feed, certain flockowners conceived the idea of wintering their ewes on silage alone, and in nearly every instance the results were well-nigh disastrous. Many of the ewes died and the lambs of those which survived were flabby and without sufficient vitality to pull through. Because of this disastrous experience silage has been looked upon by many flockowners with a great deal of suspicion. However, experimental work indicates that it can be used to an advantage as a part of the ration for breeding ewes, both before and after the lambs are born.

"Smith of the Indiana Station in an investigation covering three years, (Continued on page 23)

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Keeps the
Motor
Cool



Dealers everywhere. Ask our nearest agency about delivery in bulk.

Standard Oil Company
(CALIFORNIA)

100 Shetland Ponies

I have what I believe to be the best lot of fancy colored Shetlands in America—Spotted Ones—Blue and White—Bay and White—Black and White—Chestnut and White, also solid colors—including a number of snow-

A number of
Welsh Ponies
both mares and
geldings.

white ponies which are very rare; also a number of mares which will have colts soon.

Prices range from \$110 for well broken geldings to \$250 for fancy mares.

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Registered Jacks



Twelve head from 2 to 6 years old. Native Sons, hardy as Billy Goats and about as active.

Extra heavy bone and right every way. Fully tested as breeders and sold under an absolute guarantee. Will trade for Young Mules, Horses, or Land. Come and see the stock.

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Hanford

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BEEF CATTLE

THE RECLAMATION RECORD

Under authority of the act of Congress of June 17, 1902, the Reclamation Service, one of the Bureaus of the Interior Department, is charged with the survey, construction and operation of irrigation works in the arid states. In connection with this work the Service publishes monthly the Reclamation Record. During the early stages of the work, the Record was restricted mainly to the formal report to the Secretary on the progress of work on the various projects, with a summary of the principal contracts executed, specifications issued and a few other matters of a like nature.

Secretary Lane, a few months after taking charge of the Interior Department, determined to make the Reclamation Record a medium of communication between the Interior Department and the water users. To accomplish this he directed that it should be made a more popular publication, embodying the best thought obtainable upon the problems of the irrigation farmer.

The Reclamation Service, in hearty accord with this policy, adopted a resolution providing for the enlargement of the scope and purpose of the Record to include matter of more general interest to the water users, and to subordinate the engineering features to the farming and irrigation activities. In addition it was decided to send the Record free of charge to all water users on reclamation projects who expressed a desire to have it.

About 7000 water users now receive the Reclamation Record regularly, and numerous requests from others to have their names placed on the mailing list are coming in.

Under the new policy the Record is developing rapidly into a useful and instructive periodical for farmers and irrigationists. Its slogan is "Better Business, Better Farming, Better Living." Each month it contains an article on "Better Farming" by the practical farmer of the commission, I. D. O'Donnell of Billings, Montana, supplemented with numerous articles on the same subject by other well known agricultural experts. In addition there is a section devoted to current comments from the projects; another on common birds around the farm, also by Mr. O'Donnell; another on "Rural Credit" by an expert in the Rural Organization Service of the Department of Agriculture; one on "Activities of the Water Users' Association," largely written by officials of the associations; a miscellaneous section devoted to news items and to interesting articles by project employees; a legal section, under the supervision of the Chief Counsel of the Reclamation Service; an "Open Forum," where the water users can make their complaints (although complaints are largely a thing of the past); and finally the monthly progress reports and other items of interest chiefly to the field employees of the Service. Plans have recently been consummated to make the Record even more interesting by including each month articles by officials of the Forest Service on tree planting and the most suitable trees to be grown on the various projects, and by officials of the State Agricultural Experiment Stations on their work in its relation to the water users.

That the Record is appreciated is more than indicated by the many commendatory letters received by the Reclamation Service from the water users. Anyone in the remotest degree interested in a reclamation project should make arrangements with the Reclamation Service, Washington, D. C., to receive the Reclamation Record,

the subscription price of which, to other than water users on the projects, is only 50 cents a year.

NEW MENACE TO STOCK ON THE RANGE

Stockmen in the Northwest are being warned by the United States Department of Agriculture that the plant *Menziesia* is poisonous and may kill sheep and cattle. *Menziesia* is a straggling, branching shrub which grows to be from three to seven feet in height. In this country it is found in the Southern Alleghenies and in the mountains of Northern California, Wyoming, Oregon, Idaho and Washington. The Rocky Mountain species, which is the one known to be poisonous, usually occurs at altitudes of from 3500 feet to 6000 feet on moist northern slopes in open woods and about the "balds." In some places it grows abundantly, and on the other hand there are long stretches in which no specimens at all are to be found.

Stock poisoned by *Menziesia* exhibit symptoms much like those caused by a number of other plants. There is a noticeable frothing at the mouth and weakness which causes staggering in the gait and ends in more or less complete paralysis. There is usually pronounced nausea and sometimes difficulty in breathing. It is believed, however, that a considerable quantity of the plant must be eaten before its effects become dangerous.

Where there is abundance of other fodder sheep will not eat *Menziesia*. The trouble occurs when there is no other food readily available. Thus when sheep are driven rapidly along narrow trails—where the plant is most likely to abound—they are apt to seize upon it, and this is also true when bedding grounds are used repeatedly and the healthy forage in the neighborhood consequently exhausted.

The remedy is for herdsmen to learn to recognize the plant. A further investigation into the subject is now being carried on, but the Department has already published a preliminary pamphlet, "*Menziesia*, a New Stock Poisoning Plant of the Northwestern States," which contains a description and pictures of the plant. The thin leaves of the shrub are one to two inches long and one-half to one inch wide. The flowers grow from terminal buds, expanding with the leaves. They are bell-shaped or cylindrical, about one-quarter inch broad and pink to greenish white in color.

TWO GOOD HERDS FOR SALE

On August 27th, as announced in the advertising columns of this issue, Wm. Bond will sell at public dispersion sale all of his registered Percheron horses and Shorthorn cattle. This is an opportunity not presented in years to California buyers, and should bring out a big crowd of buyers.

The Percherons include a number of big, typey brood mares that are the kind every farmer could own profitably. The stallions in the herd are of high excellence, and among these stallions and mares are a number that have won at the State Fair.

The Shorthorn herd is an excellent one, and breeders who have visited this herd have invariably been impressed with the fine quality of the young stock. There is an opportunity in this sale for one or several breeders to secure a foundation herd of Shorthorns at a time when the future of the Shorthorn never was brighter.

Mowry Station, where the sale will be held, is near Newark in Alameda County, on the Southern Pacific, between Oakland and San Jose.

YOUR COWS NEED

NOURISHING BUTTER PRODUCING ECONOMICAL FEED

Messrs. Willits, Patterson & Green,
343 So. Hill St., Los Angeles, Cal.

June 18, 1914

Gentlemen:—In response to your inquiry as to the desirability of Cottonwood Meal as a food for cattle we beg to advise that we killed a large number of cattle last winter and during the early spring months that were fed on cottonseed meal. The quality of the beef proved quite satisfactory and the percentage of yield compared to live weight was very good. We believe it to possess very valuable qualities for the fattening of live stock. Very truly yours,

THE CUDAHY PACKING CO., R. Scott, Manager.

Feed, Cottonseed Meal and Hulls

According to Government investigation this feed contains more digestible protein than any other. Cows like it—horses thrive on it—hogs fatten on it—chickens lay more eggs on account of it.

Economical—Easy to Feed

Send for interesting booklet. It tells how to feed Cottonseed Meal and gives a complete treatise on its many uses.

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Exclusive Wholesale Selling Agents.

DISPERSION SALE

PERCHERONS SHORTHORNS

At Mowry Station, near Newark, Cal.
Thursday, August 27th, at 12:30 p. m.

18 HEAD PERCHERON STALLIONS AND MARES.
40 HEAD SHORTHORN CATTLE.
1 SHIRE STALLION.

EVERYTHING REGISTERED.

Horses include several prize winners at State Fair in 1910, 1911 and 1913. Cattle are as good as anything in the State. Descendants of Glide, Rush, Brewer (Ashburner) herds. All young and regular producers at and from 2 years of age.

PERFECTION (353208)—he by Knight Perfection—now at head of herd.

Catalogue Upon Application.

WM. BOND, Owner

NEWARK, CALIFORNIA

3 BULLS

I have for sale 3 Choice Registered Shorthorn Bulls, ranging in age from 8 to 14 months. In good condition, and well bred.

H. L. MURPHY, Perkins, Cal.

Hopland Stock Farm

Breeders of

Registered Shorthorn Bulls

Ready for Service, Range or Otherwise. SHROPSHIRE SHEEP and BERKSHIRE HOGS. HUNGARIAN PONIES, saddle or harness. Prices on application.

HOPLAND, CAL.

HOWARD CATTLE CO.

SHARON BUILDING,

55 New Montgomery St., San Francisco

PEDIGREED LIVE STOCK

The demand for Bulls is large in California, and the supply limited. We would suggest your placing orders well in advance.

WILLOWHURST FARMS

GALT, CALIFORNIA
HANFORD, CALIFORNIA

Hereford Cattle for Sale. Excellent Pedigree

JAS. WHITAKER, : : : Proprietor

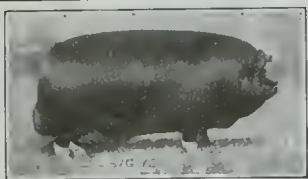
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Knob Hill Stock Farm

REGISTERED POLAND CHINA SWINE

I offer young stock of both sexes out of prize winning stock. Call and see my herd or write for prices.

A. M. HENRY, FARMINGTON, CAL.



REGISTERED PUREBRED POLAND CHINA SWINE

Herd headed by Designer (150353), Grand Champion Boar Oregon State Fair, 1911. Seven champion crosses close up. My Sows are Equally as Well Bred.

HAVE NOT HAD CHOLERA IN MY HERD FOR THIRTY YEARS.

Choice Pigs for Sale. (Registry Free to Purchaser).

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LARGE TYPE, REGISTERED POLAND CHINAS

Have a fine, vigorous lot of Baby Pigs of both sexes. Quality and price right. Order early as supply is limited.

CHAS. R. HANNA,
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Doroc Swine Fine lot of young stock for sale. Boars ready for service. Bred gilts and young pigs, both sexes. The long type and the kind that wins. J. K. FRASER, Denair, Cal.

DUROCS Out of first prize winners State Fair. Boars ready for service. Choice gilts. Pigs, either sex, \$15.
ED E. JOHNSON, TURLOCK, CAL.

PURE GOLD STOCK FARM

Breeders of BERKSHIRE HOGS HOLSTEIN-FRIESIAN CATTLE

Offers for sale a few Choice Boars of breeding age, and a number of Boar Pigs containing the blood of Masterpiece and Robinhood. Prices, \$25 to \$75.

Also one choice Yearling Bull of good breeding.

MARKOFER & LATTA, Elk Grove, Cal.

Poland Chinas I have an extra good selection of Pigs out of my good big type sows and sired by Iowa Wonder, son of A Wonder, and Longfellow 3d, son of Longfellow Jr. Pigs and prices are right. Write me your needs.
N. HAUCK,
ALTON, HUMBOLDT CO., CAL.

MULEFOOT HOGS Let me send you some printed matter describing this great breed of hogs.
J. H. NORTON
R. F. D. 1, MESA, ARIZONA.

HAMPSHIRE SWINE



The breed that has won over all others for several years in the dressed carcass contest at International fat stock show.

My herd has been selected with great care, and is headed by El Salvador, winner of two silver cups in the strongest competition in the Middle West.

I have a choice lot of young registered pigs of both sexes for sale. Also a number of choice boars ready for service. Write for prices.

FRANK REED SANDERS
MESA, ARIZONA.
In the Salt River Valley.

THE SWINE HERD

HOW TO SELECT A BOAR

This is the time to buy a good boar to produce spring litters. Our first desire should be to secure a good individual for a reasonable price, not a low-priced boar of a mongrel type, but a representative animal from one of the pure breeds from a prolific family of heavy weights and good feeders. Never use a mongrel because he has good form. One never knows what such a sire will produce when mated with good sows. Often their litters are disappointing as to size and quality. A poor pig makes an expensive porker when matured. Look at your herd of sows critically as to size, length of body, length of leg, shoulders, hams, head and general conformation and see where you can improve by judicious mating with a boar which will correct many of these defects in their offspring.

Now may be found good specimens of all the different breeds at the fairs. Don't buy a cull of anyone, because he has a pedigree and you can buy him cheap. But get a good one from a careful breeder who has taken pains to develop his herd. We do not advocate extreme high prices, although a breeder would win out quicker with a high-priced boar than with a high-priced stallion or bull, for the progeny are more numerous.

A boar that has been well fed and well cared for by a breeder who has developed him properly will not thrive and meet your expectations if turned into a lot with a herd of sows and left to shift for himself. If you adopt such a radical change do not blame the breeder if the boar fails to do well. Inquire of the man from whom you buy how the pig has been fed and cared for and then comply with the methods he is used to, and you should have good results. A boar properly developed should be ready for light service at 9 months of age. He could be used once on alternate days without impairing his future usefulness, and should be a reliable stock getter for ten years. If he gets too large for young sows, use a breeder crate. With this you can mate a boar weighing several hundred pounds upon a sow 10 months of age. In a neighborhood where there are few sows several farmers can form a club and buy a good boar, each paying for him in proportion to the number of sows bred, thus improving the prospective pig crop many times in excess of original cost.

THE HOG BUSINESS IN THE NORTHWEST

The hog business in the Northwest is being given very helpful support these months by the County Agricultural advisors in all the counties where this excellent system has been put into effect. These experts are among the strongest advocates of better stock, advising registered boars in all cases and purebred sows whenever at all possible. They are also doing great good by getting the proper grain and forage crops grown for the hogs and seeing that the pigs are rightly housed and cared for. Alfalfa, clover, rape and vetch are the chief pasture crops used for hogs here; while corn and barely supply the grain. Field pumpkins and mangel-half-sugar beets are also used a good deal to reduce the feeding cost. The colony house system of housing and portable hurdle fences are proving best for this section.

Mr. David Rosenburg of Central Point has recently started a breeding herd of registered Berkshires that promises to become one of the best herds in this part of the country. He has secured from Chas. M. Talmadge

a fine young boar, and some good gilts from Talmadge and J. B. Stump, two of the leading breeders of the West. Mr. Rosenburg expects to show a herd this fall at the Oregon state fair, and will be very likely to make some of the older exhibitors sit up and take notice.

The Leonard Orchard Co., who operate the largest ranch in this locality, are building up a strong herd of registered Berkshires from the foundation stock secured from N. H. Gentry. Their herd boar, Rogueland's Longfellow (162534), is very strongly line-bred to Lord Premier, has lots of length and scale, and his pigs rank him well up among the good sires of the Northwest.

Another Eastern prize winner that has come West recently is G. W. Berry's under-year boar, Improver (181090), that was first under-year boar at the American Royal. He is now in the herd of the Oak Grove Dairy Farm in California, to which a lot of the best Eastern blood has been brought before. They also purchased a young boar, Iowana Majesty, that was first under-year boar at the Missouri, Indiana, Nebraska and South Dakota state fairs, and at the St. Joseph, Missouri, Interstate fair, as well as taking second to Improver at the Royal. This makes five of the very top lines among the young hogs of the Eastern show circuits this year that are now breeding on the Pacific Coast; the boars, Improver, Big Four and Iowana Majesty, and the sows Duke's Lady Value 10th and Rockriver Lady Lee 133th.

Our new boar, Big Four (180400), is growing out in excellent shape, and will, we think, make a strong show as a junior yearling on the Northwest circuit this fall and a still stronger entry in the aged boar class at the Panama-Pacific next year. He weighs over 600 pounds now at 14 months, and will top the half ton mark very easily, I think, at Frisco. In spite of his heavy weight for his age, Big Four is exceptionally smooth, beautifully built and about the most active pig on the ranch. Duke's Lady Value 10th, Miss Lee 2d and Princess Royal S, our crack show sows, are also in fine shape, and are all three bred to Big Four for fall litters. We expect some great things from these matings.—F. R. Steel, Winona Ranch, Ore., in Berkshire World.

SELLING PUREBRED STOCK

The man who would make a success in selling pedigreed breeding stock must of necessity fortify himself with all the utility reasons and arguments for using purebred stock as possible. A very large proportion of his prospective customers will ask questions which may seem foolish and irrelevant to the man thoroughly familiar with the value of the improved animal. If these questions are ignored or not treated seriously, in all probability the customer will be lost. The breeder has not only lost a customer, but he has lost a splendid opportunity to widen the future demand for improved breeding stock by educating a new man as to the value of purebred animals in improving the common stock. The man producing market stock is always interested in knowing precisely what will be the additional money returns from the use of the purebred sire which is quoted to him at two or three times the price asked for the scrub or grade sire. He cares nothing whatever about the high-prices paid for the animals appearing in the pedigree unless they can be shown to have a bearing on the money making possibilities of the animal in question.

The beginner in the breeding of purebred live stock too often fails to recognize that the selling of the purebred animal is an entirely different

proposition from the selling of a load of wheat or corn or a carload of market hogs or cattle. These staple commodities with which he has been accustomed to deal in the past have

STOCKTON—LODI—SACRAMENTO

8 TRAINS DAILY EACH WAY
Between Stockton and Sacramento.
18 TRAINS DAILY EACH WAY
Between Stockton and Lodi.

BAGGAGE CARRIED ON ALL TRAINS

Central California Traction Co.



Southbound.	Leave	Arrive	Arrive
No.	Sac'mto	Lodi	Sto'kt'n
7	7:10a	8:45a	9:00a
13	9:10a	10:50a	11:05a
17	10:15a	11:45a	12:05p
23	12:15p	1:50p	2:05p
29	2:10p	3:45p	4:00p
35	4:10p	5:50p	6:05p
41	5:20p	7:53p	8:10p
47	9:00p	10:34p	10:55p
Northbound.	Leave	Leave	Arrive
No.	Stockton	Lodi	Sac'mto
4	6:00a	6:00a	7:55a
10	7:45a	8:00a	9:35a
16	10:00a	10:05a	11:45a
22	12:05p	12:20p	1:55p
28	1:46p	2:05p	3:35p
34	3:46p	4:05p	5:35p
40	5:46p	6:05p	7:35p
46	8:30p	8:40p	10:20p

STOCKTON-LODI SERVICE.

Leave Stockton, A. M.—7:10, 9:10, 11:05, 1:10, 3:10, 5:10, 7:10, 9:10, 11:05.
Leave Stockton, P. M.—12:15, 1:10, 2:00, 3:00, 4:05, 5:05, 6:05, 7:10, 8:30, 9:55, 11:20.

*Daily except Sunday.
Leave Lodi, A. M.—12:05, *6:05, 7:00, 8:00, 9:00, 10:15, 11:05p.

Leave Lodi, P. M.—12:20, 1:00, 2:05, 3:00, 4:05, 5:00, 6:05, 7:00, 8:40, 9:10, 10:37.
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3407 Magnolia Avenue.....Oak Park
Odd Fellows' Building.....Lodi
Hotel Stockton.....Stockton
Connections made at Sacramento with Northern Electric trains to and from Marysville, Oroville, Chico, Woodland and way stations, and at Herald with Amador branch trains.

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Of the swine Journal read by hog breeders of every state. Valuable articles on care and management of swine written by practical hog men. The only paper published exclusively for the Chester White, O. I. C., breed of swine, being its official paper. A profitable investment for any hog raiser; 50c per year or three years \$1.

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THE HOG BOOK

By H. C. DAWSON.

Fifty years' experience as a breeder and feeder has qualified the author to write the most practical, concise and helpful book ever published on hogs, from the farmer's point of view. Theories and speculations are avoided; the facts and figures of a comprehensive experience extending over fifty years are Mr. Dawson's invaluable contributions in this profusely illustrated volume. What he has done others may do. He makes clear every detail of the program which has brought him wealth and prominence. For farmers, breeders, feeders and students there is information, usable advice and inspiration in this unique personal record of results. All breeds are described and illustrated, and their histories given. Every question pertaining to breeding, feeding and management is treated from the standpoint of a ripe judgment backed by experience.

PRICE, \$1.50 POSTPAID.

The Live Stock and Dairy Journal
SACRAMENTO, CAL.

definite values on the market. It is not so with the purebred animal which is to be used for breeding purposes. Too often the young breeder when asked why the boar he may be pricing at \$50 is worth twice as much as a boar of scrub or grade breeding will simply answer that this boar is pedigreed, his sire was such and such a boar that sold in some public sale for a large sum of money. He may go on and recite to his prospective buyer the names of a number of high priced animals which appear in the pedigree of this animal. If his customer is a new beginner in the use of purebred animals for breeding purposes, these arguments will have absolutely no influence with him whatever. It must be remembered that the man who has never used purebred live stock naturally has had no experience whatever to guide him as to the utility value of animals pure in breeding. It must be accepted as a general proposition by the breeder of purebred stock that in many cases it is necessary for him to actually educate his customer as to the value of purebred stock before he can hope to make a sale.

A writer in the Berkshire World states that he one time asked a young inexperienced breeder of the type just described why the purebred boar he was pricing at \$50 was better than any other kind of a hog. He told this young breeder that he was new to purebreds, and while he had plenty of money to invest he wanted to be sure that he could realize a profit by paying the price asked. His first answer was that the price asked was extremely low in comparison with the prices being paid at various sales for animals of that quality. The breeder, when pressed further as to the profit making possibilities of the boar, said he would get better feeding pigs, but was unable to state how much less feed it took to make a pound of pork or how much earlier a given weight could be reached. This writer goes on to say that a small crowd of interested hog men soon gathered around to hear the discussion. None of the breeders present seemed able to state in dollars and cents how much additional profit could be secured by using this purebred animal. Finally a man, who, it later turned out, was not a breeder of hogs at all, but simply a market producer, answered the question satisfactorily. This hog raiser said that the barrows produced by the use of this good boar would actually make 240 pounds of pork from the same feed that would produce 215 pounds of pork on the barrows from the inferior sire. He went on to say that there would be more runts among the pigs in the scrub litter; that the purebred sire put more vitality, more quality, more easy feeding and early maturing qualities into the pigs than the scrub. He then went on to figure out by saying that on forty barrows, each one producing 25 pounds of pork more per head, there would be an increased production of 1000 pounds at no extra expense of feed or labor. This, at 8 cents a pound, would mean \$80. He then went on to show that in addition to this there would be a decided improvement in the gilts produced, which he considered easily worth another \$80 or \$100. In other words, his argument had convincingly shown that the investment of \$50 in this purebred boar, instead of paying \$25 for an inferior, scrub animal, would result in actual money a profit of \$160.

The ability to rattle off a lot of high-sounding names of a pedigree, stating the prices at which the animals were sold in somebody's sale have absolutely no effect whatever upon the man who is new to the value of improved live stock. One of the most important things for the breeder of purebred stock to learn at the very beginning of his career as a breeder is, that he positively must make a thorough study of the selling end of the business.

SUBSTITUTE FOR SKIM MILK FOR PIGS

The dairy farm is the place to raise hogs successfully, especially when large quantities of skim milk are available. But many hog raisers have managed to extract profit from hogs without the aid of skim milk, and there has been much experimenting with feeds to take the place of skim milk, especially for young pigs after weaning. It is at this period in the life of a pig that he is apt to become stunted unless properly fed.

In experiments conducted in Michigan and in Canada it was determined that digester tankage was the most satisfactory substitute for skim milk. In the Michigan experiment tankage was figured at \$33 per ton and skim milk at 20 cents per hundred. On this basis tankage fed hogs made more economical gains.

In the Canadian experiment tankage fed hogs were thrifty and made economical gains. In both experiments, during which a large variety of feeds were used, digester tankage was found to be the most satisfactory substitute for skim milk.

GOVERNMENT SUPERVISION OVER IMPORTATIONS OF LIVE STOCK

In case you are a breeder of live stock and desire to import a number of animals for breeding purposes or possibly a purebred bull, boar or ram for the improvement of your herd or flock, it will be well to know that the Federal Government maintains a strict supervision over the entry of such animals into this country. The same close scrutiny is exercised over deer, goats or other pet animals, which foreign travelers sometimes wish to bring home as pets or as mementos of their travels.

In either case it will be advisable to defer making a purchase or engaging space for the animals on a steamship until you have ascertained just what requirements govern importations of such animals.

By act of Congress the Secretary of Agriculture is given authority to make such regulations, and take such measures as he may deem proper to prevent the introduction or dissemination of any contagious, infectious or communicable disease of animals from a foreign country into the United States.

Under such authority regulations of the Department of Agriculture require that any person contemplating the importation of cattle, sheep and other ruminants, and swine, from any part of the world except North America, must first obtain from the Secretary of Agriculture two permits. One of these permits, upon presentation to the American Consul at the port of shipment, will entitle the specified animals to a clearance; the other will assure, subject to inspection, their reception and entry subject to observation in quarantine at the port of entry on the date prescribed for their arrival or at any time during three weeks immediately following. This leeway allows for any unavoidable delay, through bad weather or other cause, in the steamer's schedule.

Three animal quarantine stations are provided on the Atlantic seaboard near the ports of Boston, New York and Baltimore for the detention of imported stock. The animals included in this regulation are cattle, sheep, goats and other ruminants, swine and collie, shepherd or sheep dogs. All animals from parts of the world other than North America are subject to this quarantine regulation. If no disease develops while the animals are detained at the quarantine station the owner is permitted to ship them to their ultimate destination in this country.

All animals of the classes named and which are subject to both inspection and quarantine must be entered through these ports.

Cattle from Great Britain, Ireland

and the Channel Islands are held in quarantine for a period of thirty days. If from other countries, except those of North America, the quarantine period is ninety days, counting from date of shipment. Sheep and swine from any part of the world, except North

America, are subject to a quarantine of fifteen days.

The Department of Agriculture receives periodically official reports from various foreign countries concerning conditions as regards existence of certain communicable disease

Oak Grove Berkshires

Bred For Quality

Capacity to convert feed quickly, and therefore economically, into pork of the best quality, is what has made the Berkshire the favorite hog for the Pacific Coast.

We have the blood of the greatest hogs of the breed in our herd, blood that produce profitable pigs, the kind that swell the bank account when market day comes.

Our brood sows are from the best families of the Berkshire breed, and hold their places in our breeding herd because of their size, excellent quality, and ability to farrow large litters of pigs of uniformly high type.

In ARTFUL MASTERPIECE, twice Grand Champion at California State Fair, IMPROVER B, the undefeated young boar that was first at American Royal, IOWANA MAJESTY and BRINTON'S LONGFELLOW, we have a group of sires second to none in the West.

We have been unable to meet all the demands for stock of breeding age made upon us during the past season, but at present we have a very fine lot of pigs coming on. We advise early selection as present indications point toward an increasing demand for good Berkshires this season.

We cordially invite prospective buyers to visit our herd, but if this is inconvenient an order by mail will receive careful and prompt attention.

OAK GROVE DAIRY FARM

Woodland, California

Reference: First National Bank of Woodland.

IOWANA FARMS

BREEDERS OF REGISTERED STOCK ONLY.

HOLSTEINS with the TYPE, CONFORMATION, CAPACITY, BREEDING and A. R. O. backing to make them producers. INDIVIDUALITY and PERFORMANCE, as well as breeding, constitute our basis of judgment of animals. Not only must they be bred in producing lines, but they must be producers themselves, having the capacity for work, and the vigor, and strength, and constitution which go to make them business animals.

Herd Sires—SIR JOHANNA FAYNE (No. 42147), and OAK DE KOL OLLIE HOMESTEAD (No. 85529).

BERKSHIRES ONE HUNDRED choice sows, bred to the following boars, have farrowed pigs during the months of March, April and May. These sires are of outstanding merit as individuals, and represent the very best in Berkshire blood lines: Rival's Iowana Baron (172535), Baron Premier 102d (172300), Masterpiece Rival 2d (137725), Ames' Rival 36th (176400), Double Champion (168700), Rival's Iowana Baron 2d (172536), Artful Belle's Rival 3d (133678).

The sows are equal in breeding and quality to the boars, and these matings have brought pigs that are of the best in Berkshire type and characteristics. Write us for Holsteins and Berkshires, or, better come and see us.

IOWANA FARMS, Davenport, Iowa J. L. THATCHER, Manager

BOARS - SOWS - PIGS



I have on hand a limited number of young Berkshire boars, a few gilts, and some young pigs of both sexes. These are especially choice and of good breeding. Some are sired by RIVAL'S CRUSADER and LORD DUKE, and one or two bred here are by KENNETT LEE JR. Order early as the supply is limited.

G. A. MURPHY, Box 300, Perkins, Cal.



Nora's Model 2d (18038).
Also a Producer of Prize Winners.

Pleasing to the Eye

J. L. GISH,

Laws, California

As well as satisfactory to the bank account. Beauty of form has not been forgotten in the breeding of the MODEL HERD of Berkshires.

MANY A GOOD PIG

Has been beaten by a very narrow margin in the show ring by a pig that was no better individual, but showed better finish.

Good show fitters know the value of our

DIGESTER TANKAGE

for putting their hogs into the highest show condition.

Don't take a good hog to the Fair and let him lose because of lack of condition. Get a supply of Digester Tankage now and bring home the blue ribbon.

Digester Tankage is without a rival as a balancer for the ideal hog ration. It develops bone and muscle in pigs and MAKES THEM GROW. It fortifies their systems against attacks of disease germs so that Tankage-fed swine seldom suffer from epidemics. It imparts the fit and finish that make show winners and market toppers.

Write us for particulars and prices.

Western Meat Company

ANIMAL FOOD DEPT.

SAN FRANCISCO, CALIF.

REGISTERED POLAND CHINA SWINE

PRIZE WINNERS

Finest Stock in the State from \$30 up

I have for sale a few very fine Young Boars sired by Gold Coin, Master Banker and Wonderful Victor. There is no better blood in the world.

M. BASSETT, Breeder

HANFORD, CAL.

POLAND CHINA SWINE

I have for sale pigs of both sexes sired by my boar, Great Prospect (57949) out of sows sired by A. Wonder. For prices write or call.

BROWNING STOCK FARM, WOODLAND, CALIFORNIA.
W. H. BROWNING, Prop.

Red Duroc Hogs Best Bred Stock Now In California

YOUNG STOCK AND SERVICE BOARS AND SOWS FOR SALE.

All Registered Purebreds, and from such sires as Wonder and Klondike. We are located in the Imperial Valley, and are here to supply California, Oregon and Arizona breeders. Write for prices and pedigrees to

MOORE BROS., El Centro, Imperial County, California
Box 202.

Tamworths

The Celebrated Black and Bacon Hog. Especially adapted to California Climate. Boars, Sows and Young Stock for sale. Prices Right.

COTTLE & HOBSON COMPANY
AMSTERDAM, CAL.

OHIO IMPROVED CHESTER

Cholera immune breeding stock. My entire herd has been immunized against hog cholera by administration of the combination serum treatment by a graduate veterinarian.

I have eight fine sow pigs and six exceptionally good young boars ready for delivery now.

Eight of my good sows will farrow in August, and I advise that reservation orders for pigs be placed early.

C. B. CUNNINGHAM

MILLS, SACRAMENTO COUNTY, CALIFORNIA.

of live stock. These enable the Secretary of Agriculture to determine countries from which certain animals can not be imported without danger to the live stock of the United States. No permits are granted for importations from such countries. For instance, owing to prevalence of foot-and-mouth disease and other communicable diseases in countries of the Old World and South America, importations of cattle, sheep, other ruminants and swine have for several years been forbidden from countries other than Great Britain and North America. This work is aimed to exclude communicable diseases, a number of which are unknown in this country, any of which, if introduced, would result in great loss to our live stock industry. Persons interested may obtain the latest regulations (B. A. I. Order 209, effective July 1, 1914), on application to the chief of the Bureau of Animal Industry, Department of Agriculture, Washington, D. C.

Those of our readers who are interested in Berkshire hogs can hardly fail to be impressed with the photographs reproduced in the advertisements of Model Herd, owned by J. L. Gish, Laws, California, which have been appearing in recent issues of the Journal. These photographs show a high degree of excellence in the individuals, and there are more like them in the herd.

Iowa Farms, Davenport, Iowa, have an original way of proving that their registered Berkshire hogs are actually immune to hog cholera. They frequently send out some of their stock to cholera infected herds and leave them there for weeks at a time. Although hogs in the infected herds keep on dying, Iowa Farms has never lost one of their immunized Berkshires. They have even gone to the extreme of bringing cholera infected hogs to their own farms and placed them among their own stock, and even then they have never lost an immunized Berkshire. All of which tends to prove that the process of immunization is very thoroughly carried on at Iowa.

BREEDING CRATE.

I have frequently been asked the use of the breeding crate. It is simply an arrangement to hold the sow or gilt firmly while the boar makes the service. It is of especial value in breeding small sows or gilt to heavy boars. Too often the old boar is discarded because he is too heavy to breed to the young gilts. This is not profitable, for the mature boar will produce more vigorous offspring than the young boar. There should be a breeding crate on every farm where hogs are being bred

H. H. SMITH.

CHANGES IN CLASSIFICATION AT CALIFORNIA STATE FAIR

During the past two years important changes have been made in the classifications and premiums at California State Fair, and this year a number of minor changes have been made and several important features added.

In the horse class the French Coach Horses and the American Carriages Horses have been dropped from the schedule, there having been no entries in recent years in these classes, and it being evident that none are bred in California at this time.

There has been added a class of Shetlands, as distinguished from other ponies, and the schedule complies with the regular schedule for breeding classes, and offers premiums as well for ponies in harness and under saddle. This will make two very interesting classes for the little fellows, and should bring out the very best in the State.

In the saddle horse class the California State Fair five-gaited saddle horse futurity No. 1 will start this year when the weanlings will be shown.

This stake has a guaranteed value of \$3000. There is also a special cup called the Lord Denmark cup, offered by Mrs. Thomas L. Johnson, owner of Lord Denmark, for the get of that stallion. There are a dozen youngsters eligible to this competition, which is also in fact a futurity, as the cup must be won next year by the colt which wins this year to obtain permanent possession.

The special premiums of the American Gaited Saddle Horse Association and the Pacific Coast Five-Gaited Saddle Horse Association will stand.

A new feature this year is the offer of the California Stallion Registration Board, which offers four cups and four cash prizes of \$200 each for stallions and jacks registered for public service in the books of the board, each to be shown with three of his get. The divisions are for draft horses, any breed; standard bred horses, trotters or pacers; gaited saddle horses and jacks. This should bring out some of the best exhibits of farmers' classes to be found in the State.

In the cattle class, the Galloways and Devons have been dropped from the list for the time being. The premiums have been revised for the dairy breeds to conform with the standards set by the National Dairy Association.

The sheep schedule has been revised and the purebred sheep of the several breeds in the fine, middle and long wool classes have been properly scheduled. The fat sheep classes have been amplified and the same has been done with the class "Range Types." In these last named registration is not required and the premiums are to be awarded on pens of three or five animals each, to give the sheep man an opportunity to show his stock as bred to fit the natural conditions in this State.

In the Swine Department the classification for Essex has been eliminated and Tamworths have been substituted. This does not preclude a breeder of Essex from showing, as he may exhibit his swine under the head of "Other Distinct Breeds."

In the matter of the resolution of the Swine Breeders' Association, as to better facilities, the Directors have referred this matter the Committee on Grounds, which has under consideration plans for additional water taps as requested by the Breeders' Association, awnings on the swine sheds and whatever accessories are necessary to afford the greatest comfort and convenience to exhibitors to this, the largest department of the live stock class.

In the matter of entries in the butter-fat contest, entries will close on August 12th, but exhibitors are not required to give the names and pedigrees of the animals entered at that time, but merely to designate the number of entries each man has. On the opening day of the Fair each competitor in the butter-fat production contest will be required to file a supplementary entry, giving the pedigree and all data for each animal that he has entered in the competition. This will enable the breeder to have until the last day to name his animals which will be in the best condition for the contest.

A similar provision will obtain this year in the herd and group sections in all the breeding classes of live stock. In classes for get of sire and produce of dam, the entry filed on August 12th will be required to name the sire or dam, as the case may be. The exhibitor will then have an opportunity to show the individuals in his herd in their proper competition and from the individuals deemed best by the judges in the individual competition he may select the animals for his herd. He must, however, before a herd enters the ring file a complete entry giving the pedigree and necessary data for each animal. The purpose of this is that there shall be in

the State Fair office a complete record of all animals, with their pedigrees, competing in any class of the State Fair. Last year these records were bound to be incomplete, and there was some difficulty in getting the matter properly adjusted. Under this new plan every exhibitor will make his own entries and be sure that the records comply exactly with the facts as to the animals shown in the judging ring.

A new premium has been offered this year for milk goats. The premiums being the same as for Angora.

SELECTION OF THE BROOD SOW

As the large ranches are being cut up into small farms, the chances for range cattle grow less and less, therefore meat must be produced from some other source, and no source offers greater opportunities than that of swine production.

Any small farm can support one or more brood sows profitably.

In starting a herd, first consideration must be given the brood sow for a foundation. Therefore great stress should be laid upon the proper selection of the dam.

The sow in selection should show plenty of femininity. Her disposition should be a gentle one, which will enable the herdsman to enter the pen at all times, especially at farrowing time, without the least fear of disturbing her.

She should be of good size, with a strong, arched back, and ribs well sprung, with large heart girth.

Another essential point is that she should have good, strong pasterns and stand up well, for a sow to properly carry a heavy litter of pigs must have strong pasterns and bone.

She must be a good milker, as the young pigs must have plenty of nourishment from the dam, to get his proper start in life. Whether she be a tried sow or gilt, her milking quantity can be very closely ascertained by a study of her breeding on both the side of her dam and her sire, as "like produces like."

Another important factor is prolificacy, for it takes so many pigs out of each litter to cover cost of keeping, and every extra pig over that number is a pure profit maker, and will lessen the initial cost of the litter.

H. H. SMITH.

THORNBERRY HAS SOME GOOD ONES ON WAY

H. B. Thornberry, who has established an enviable reputation in California for the quality of Missouri jacks and jennets which he has brought into the State during the past three years, is making his most important shipment to the Pacific Coast.

Three years ago Mr. Thornberry

made a beginning in this State by bringing in a carload of registered jacks which were sold at prices ranging from \$1500 to \$4500. It was the first time in the history of the State that a breeder had ever attempted to ship in high quality jacks in such numbers, and there was some question at the time as to whether there was sufficient demand in the State to justify the importation of large numbers of jacks of this quality. The question was very decisively settled by the rapidity with which the jacks were sold, and a second importation quickly followed the first. Afterward carload lots of jacks and jennets came regularly to Mr. Thornberry's stables at Stockton, and always the high quality has been maintained, several jacks bringing up around \$5000 per head, and from him a number of breeders have secured very fine herds of jennets.

This latest shipment, however, entirely overshadows all previous lots brought out by Mr. Thornberry. The shipment is made up of about 125 head of registered jacks, jennets and saddle horses, and advices from Kansas City to the Journal indicate that as to quality this is the best lot of this class of stock ever collected and shipped at one time by any breeder in America. The stock is coming out by special train running on passenger train schedule, and will very shortly be available for inspection by local breeders.

JUDGES FOR 1914 CALIFORNIA STATE FAIR

The following judges have been selected to officiate at the 1914 California State Fair:

Ed. A. Baxter, Pawnee, Ill., swine.

Prof. John T. Caine, Logan, Utah, live stock.

Prof. L. M. Davis, Davis, Cal., dairy produce superintendent.

Dr. Carl W. Gay, Swathmore, Pa., saddle and harness horses.

C. E. Hinds, Oakland, Cal., poultry.

Prof. H. H. Killdee, Ames, Iowa, dairy cattle.

Robert V. Moore, Lankershim, Cal., pigeons.

Prof. J. I. Thompson, Davis, Cal., sheep.

Prof. Gordon H. True, Davis, Cal., Prof. E. C. Voorhies, Davis, Cal., milking contest.

W. P. McNair of Douglas, Ariz., will act as starter at the races.

McLAUGHLIN KEEPS UP THE PACE

When McLaughlin Percheron Company brought out their first load of imported 2-year-old Percheron stallions last year it looked as though they had set a standard of quality that would be difficult to maintain. Several other carloads were brought out and sold afterward, though, and if there was any variation in quality in the later shipments it was in favor of betterment.

Another car made up mostly of great 2-year-olds reached the company's permanent stables at Oakland, Cal., late in July. They left France of June 25th, and were just off pasture there. A Journal representative saw them shortly after they came off the cars at Oakland, and they had stood the trip remarkably well.

The 2-year-olds in the lot are of such uniformly good size and type that a choice is largely a matter of individual taste, and there is not one in the lot but that has the quality and breeding to work further improvement in our Pacific Coast draft stock.

There is an outstanding black 3-year-old in the lot that will command attention at the fairs where he is shown this year, and a 4-year-old gray will fill the eye of the horse breeder who admires the massively muscled, well boned, active and intelligent Percheron.



KILMOL SQUIRLOGOPHENE

WILL KILL 'EM ALL

Everything FOR GOPHER AND SQUIRREL Destruction

KILMOL SQUIRLOGOPHENE

with U. S. Destructor, or Waste Ball Method, is 100% Efficient.

KILMOL WILL KILL 'EM ALL

5-Gallon Tin of Kilmol, \$6.00.
Waste Balls, 50c per hundred.
U. S. Destructor, \$9.75.
U. S. Government Poisoned Barley New Formula, \$3.50 for 100-lb. drum.
The old formula improved, it is different.
Gets the Foxy Old Squirrels.
Strychnine—5-oz. tins, 60c per ounce.
A postal will bring you valuable information. Write now—don't delay.

HERBERT F. DUGAN
Dept. K.
1170 SUTTER ST.,
SAN FRANCISCO.



INDEPENDENT of the WEATHER

The Farm that is equipped with the

Waterloo Boy Engine AND THE Woodin & Little Horizontal Centrifugal Pump

is not at the mercy of the weather. No matter how hot, cold or dry it may be, no matter what the conditions, this engine and pump will work steadily and well. And backing up the long and continuous service which this pump and engine will give is the intelligent and cheerful personal service which the Woodin & Little Pump House extends to all its customers.

Whatever is needed in the pump line you may be sure we have it. Whatever is purchased from us you can rest assured is of the highest quality.

These wishing detailed descriptions of the pump and engine here illustrated together with catalogue of the big line of

Pumps for Every Service and Use—Gasoline Engines—Wind Mills—Pipe-Casing—Fittings—Brass Goods, etc.—can have it free of charge. Address:

WOODIN & LITTLE—PUMP HOUSE
33 to 41 Fremont Street
San Francisco, Cal.
We carry the largest line of Pumps in the United States.
Call upon your nearest dealer for our proposition.

A New Transcontinental Route

WESTERN PACIFIC

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THROUGH

The Feather River Canyon and the Royal Gorge

THROUGH STANDARD AND TOURIST SLEEPING CARS

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MISSOURI PACIFIC BURLINGTON ROUTE ROCK ISLAND LINES

Observation Cars Dining Cars Electric Lights
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Blatchford's Pig Meal

WEANS THEM SAFELY and STARTS THEM RIGHT.

100 POUNDS makes 100 GALLONS —of— PERFECT, SMOOTH, NOURISHING MILK SUBSTITUTE.

FREE FOLDER AND PRICES ON REQUEST.

COULSON CO.

PETALUMA, CALIFORNIA.

THE SILO YOU CAN BANK ON.

THE 1914

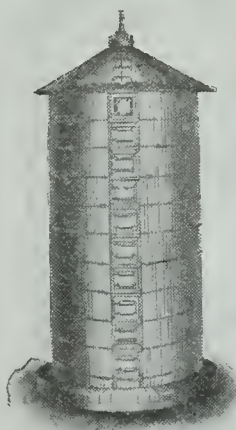
WINNER SILO

Perfect in Construction. Air Tight.
Non-Stickable Doors.
Perfect Silage.

**PAPEC PNEUMATIC
ENSILAGE CUTTERS**

Lightest running and most efficient Feed
Cutter on the market, and most reasonable
in price. Correspondence solicited.

Brentwood Lumber Co., Brentwood, Cal.

**AYRSHIRES**

Three hundred registered Ayrshires to select from. Unbeaten in the show ring. Holders of three official world's records for yearly production made, under the supervision of State authorities. A Pacific Coast herd. Stock of both sexes for sale. Write for catalog, stating requirements.

WILLOWMOOR FARMS

J. W. CLISE, Owner.

REDMOND, Washington.



You probably have some cows which are making a good profit for you and others which are not paying for their board and keep. No man has ever been able to say positively whether a cow is paying him a profit or not until he applies the Babcock test.

Some of the cows which are not paying you a profit would if they had a balanced feed. Give them Sperry Suremilk and they will give you more milk and a greater percentage of butter-fat.

Sperry Suremilk

is a feed for dairy cattle—the best that scientists and chemists know how to make. It is made from various kinds of grain which contain 64.87% of carbohydrates and 11.09% of protein—the two essentials in food to enable your cows to give their greatest milk production and the most butter-fat.

To settle all doubt as to the merits of Suremilk test your cows before you feed it and then make another test after you have fed Suremilk to them for a short period of time—that will give you absolute assurance of the merits of Suremilk.

Send for the booklet

**"Converting Feed
Into Money"**

This little booklet has been written especially for those who want to know how to feed their cows to get the greatest dairy profit. It contains a chart which shows a scientific analysis of all the different kinds of feed. This chart will prove valuable to you and give you a clearer insight into scientific feeding than you ever had before. Send for this book today—it's free for the asking—

Address Stock and Feed Department

SPERRY FLOUR CO.
Stockton, California.

Please send me your book on "Converting Feed Into Money"

3

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Mention the Live Stock and Dairy Journal When Writing to Advertisers.

THE DAIRY**The Municipal Milk Supply of Los Angeles and Its Regulation.**

(Written for The Live Stock and Dairy Journal by G. H. Hart, M. D., V. M. D.)

Introduction

Twenty years ago when its milk supply began to be regulated, Los Angeles was comparatively a small city. Surrounding it on all sides was a country in which dairying was one of the main agricultural pursuits. Butter and cheese were manufactured on a large scale, and one large condensed milk plant was in operation. In Los Angeles and Orange Counties alone many times as much milk as the city consumed was daily produced. This condition of affairs soon underwent a great change. The city grew rapidly, using more and more fresh milk and cream. The sugar beet industry came into Southern California, and thousands of acres of land which had been used for dairying went into sugar beet farming. Land rose in value until that near the city was too high priced for dairying to be a paying industry. The value of milk for the city trade rose above the butter-fat value, and one by one the creameries and cheese factories and the condensed milk plant closed their doors, until today not one country plant in Los Angeles and Orange Counties is making any of these dairy products. Even the turning of the entire supply into the city trade has not been sufficient to satisfy the demand, and the city is now drawing from far beyond the limits of these two counties for its milk and cream supply.

Sources of Supply.

The city of Los Angeles is at present consuming daily approximately 26,000 gallons of milk and 750 gallons of heavy cream.

The fresh milk supply is produced mainly in four counties, viz, Los Angeles, Orange, Riverside and San Bernardino. The cream supply and 500 to 1000 gallons of milk daily comes from the San Joaquin Valley, 250 miles from Los Angeles, in the counties of Kings, Tulare and Fresno.

The total is produced in 1229 dairies, containing approximately 23,000 cows.

In the city limits it is estimated there are 400 one-cow dairies which are family cows kept by individuals who dispose of their excess milk to a few neighboring families. Within and close to the city limits there are, in addition, 167 retail dairies of two or more cows, having a total of 2485 cows, the owners of which retail their product raw direct from the dairy to the consumer. In the county there are 466 wholesale dairies which ship their milk to the city milk plants. This makes a total in the county of 1033 dairies, containing only 11,092 cows, due to the fact that in Los Angeles County we have so many small dairies. This increases the difficulty of inspection. Experience has shown, however, that it is from the small dairy on the small piece of land, owned and operated by the producer, that some of the best milk is obtained. On the other hand, the small dairy on a large piece of land is usually run as a side issue and given secondary consideration to other agricultural pursuits. It is on these places that constant supervision by the inspector is needed and the product is then not up to the standard of the large dairy. The large dairy has the drawback of being operated by hired help, who are ignorant of the rules of sanitation, and their only desire is to get the last cow in their respective strings milked.

From Orange County 89 dairies containing 1710 cows send in 3015 gallons. In Riverside County there are seven dairies containing 309 cows and pro-

ducing 580 gallons, while San Bernardino County has eleven dairies with 552 cows and sending 970 gallons to the city supply.

In the San Joaquin Valley we have 30 dairies in Tulare County, 53 in Kings County and 6 in Fresno County, making a total of 89, containing 6700 cows.

This is an average of 75 cows to the dairy, showing that in this locality the small dairy so evident in Los Angeles County is absent.

Dairy Inspection.

In the performance of this work there are six men constantly engaged, all of whom are stationed beyond the limits of the city, and they have supervision over 662 wholesale dairies. They are located, one each, in El Monte, Gardena, Compton and Downey of Los Angeles County; one in Stanton of Orange County, and one in Tulare of Tulare County. The dairies under the supervision of each inspector number 89 in Tulare to 170, those having the larger number being in the more thickly settled dairy districts, such as the Downey territory. Some of these inspectors visit many of their dairies twice each month or oftener. On one visit each month the existing conditions at the ranch are recorded on a dairy score card, which allows a certain number of points for each of the various parts of the equipment of the dairy, as, for instance, the health of the cows, construction of the stanchions and dairy utensils; and so many points for each of the various methods, such as cleanliness of the cows and stanchions and degree to which the milk is cooled and stored. The sum of the equipment column of the score card totals 40 and the method column 60. Each dairy may, therefore, make 100 points on the score card, although none but a certified dairy ever approaches this stage of perfection. The score cards constituting the dairy reports are turned in by the inspectors and entered at the Health Office on a card index system covering all the wholesale and retail dairies and city milk plants, and then filed according to date.

We have been using the detailed score card regularly since January 1, 1911, but until recently had not established a minimum standard below which a dairy would be cut off. In the absence of this standard the inspectors cut off dairies for violation of the rules of the Health Commissioner. There are dairies, however, under this system which will escape being cut off and yet be constantly run in a careless and slovenly manner. Without the minimum standard the dairy-men will pay no attention to their score card. On April 1st of this year the Health Department made a minimum standard of 45, and after July 1st it will be raised to 50. Since doing this, dairymen have shown a great deal of interest in their score cards, and I am convinced that the only way to get the full value out of the score card system of dairy inspection is to have a minimum standard. Where a number of inspectors are working on adjoining territories it is necessary with this system that they score uniform. This can be accomplished by drawing up rules for scoring and by having scoring meetings at which all the inspectors will score the same dairy simultaneously and then compare the results. There is great need for a uniform score card to be used in all dairy inspection work throughout the

State of California, and I am glad to see a movement in this direction has been made by the Health Departments of San Francisco, Oakland and Berkeley. While the copy of the score card they propose, in my opinion, gives too many points for light, ventilation and cubic feet of space per cow, it is nevertheless a step in the right direction, and if proper discussion and effort is given the matter I am sure a score card can be devised that will be adopted by all.

Our cow barns are built so open in the southern end of the State that scoring for light, ventilation and cubic feet of air space can be dispensed with entirely.

Of the fourteen rules of the Health Commissioner which the inspectors have orders to enforce, No. 10 has been the most difficult to carry into execution. It states that no bucket, can or other receptacle used for the reception of milk, other than the ones used by the milkers for drawing the milk in, shall be allowed in any stall or place where milking is done, and each bucket of milk shall be immediately taken to the milk house and cooled. While the importance of this rule in securing clean milk is recognized, it met with determined opposition by the dairymen, and an alternate rule was finally adopted which allowed one covered five-gallon can for each milker to be kept three feet above the floor of the stall, provided the milkers used a covered bucket. It was thought that the advantage of having a covered milk pail would offset the danger to the milk being left in the stanchions a little longer. When milk houses are built close to the stanchions there is little difficulty in having the milkers carry the milk to it as soon as a bucketful is obtained, and for this reason we recommend that milk houses be built close to the stanchions.

It must be plain to all that it is far preferable to have a milk house close and have the milk taken to it immediately than to have it far away, with the invariable result that milk is allowed to stand behind the cows and become contaminated, if not by actual manure or urine splashing into it, at least by flies and the absorption of odors which are far more easy to keep out of the milk in the first place than to remove when once they have gained access to it.

Where corral milking is done it is, of course, necessary to have the milk house farther away on account of the amount of manure dust constantly in the air, but the sooner corral milking is abolished by State law the better for all dairy and creamery interests, as well as the public health.

Milk Inspection.

The milk inspection work consists in supervising the handling of the milk from the time it reaches the city railway depots until it is delivered to the consumer. In addition to this work there are within the city and close to its boundaries 167 retail dairies of over one cow. The dairies of only one cow have to have a permit to conduct a dairy, and every store or restaurant selling milk has to have a milk vendor's permit, which must be renewed every time the business changes hands or moves to a new location. Milk stored in restaurants and stores has to be kept in a separate compartment in the ice box.

Since the very important regulation making it necessary for stores to sell only bottled milk has been in effect our troubles with this part of the milk business have disappeared, and a larger proportion of the stores have taken out a permit to sell milk than was the case under the old bulk milk system. While this ruling makes it necessary for the largest city milk plants to wash, sterilize, fill and cap 50,000 bottles of milk daily, and increase proportionately the number of bottles in the other plants, they have all adjusted their work to meet this requirement, and its good points are admitted by

all. The day is passed when dipped milk should be allowed to be sold in any city except from so-called milk stores which handle nothing but milk, butter and eggs. In Los Angeles we have eighteen of these milk stores.

There are three inspectors in the city. One of these men during the morning meets the trains at the depots and takes temperatures of the milk.

Our temperature standard of 70 degrees Fahrenheit is ridiculously high, and still under present conditions it seems impossible to lower it, because during the few days of exceptionally hot weather which we have in Los Angeles every summer, at least 50 per cent of the milk comes in above this temperature.

This is due in great part to lack of proper means of transportation for the milk from the ranches to the city. Until recently this was done entirely by steam and electric cars. Recently, however, auto trucks have been hauling a great deal of milk to the city. These are worse than cars, because the milk not only heats up on them, but the jarring churns it so that large clumps of butter-fat form and are strained out of the milk at the city milk plants and wasted. The recent extensive reduction in freight rates by the railroads will probably stop the extension of the auto trucks in this business, and then the most needed State law in California to improve the municipal milk supplies is proper regulation of the railroads in methods of handling during transportation, requiring refrigerator cars, etc. With such a State law we could probably be able to lower our standard, but it surely seems unfair to do so at present when the dairyman makes every effort to get his milk below the standard, only to have it heat up five or ten degrees in transit and be condemned after all in the city. On account of the temperature of the water coming out of the ground in this country being so high the dairymen cannot cool their milk below 70 degree Fahrenheit during the greater portion of the year without using ice.

Milk coming in over 70 degrees Fahrenheit is either colored with a red dye or placed in a sour cream tank for butter.

The inspector visits the city milk plants and once each month makes a detailed score of each one of these plants on a city milk plant score card. The product of these plants, unless heated under the "holder system" and left at 140 to 145 degrees Fahrenheit for 20 minutes, is not allowed to be called pasteurized, but the term heated is used. Five of our largest plants have good pasteurizing equipment, with self-recording thermometers, and do good pasteurizing, unless something unusual occurs, such as milk coming in late or a coil leaking, etc. Four of our plants are putting out a heated milk. Seventy-five to eighty per cent of our milk supply is pasteurized or heated.

During the afternoon the inspector collects samples from the delivery wagons for bacteriological counts and chemical analysis. He maintains a motorcycle, to the rear of which is strapped a galvanized iron sample case with a central ice compartment. By means of this machine he is able to cover a large territory in a short time. Another inspector has one-third of the city and adjoining territory, in which he inspects the dairies and passes upon dairy and vendor permits. The remainder of his time is spent in collecting restaurant samples and the court work incidental thereto. (He collects about 200 samples per month from restaurants.) The third city inspector has two-thirds of the city and devotes all his time to inspecting the dairies in this district and in the territory immediately adjoining and in passing upon dairy and milk vendor permits.

Homogenizing Machine—Its Use and Abuse.

This is comparatively a new addi-

Mention The Live Stock and Dairy Journal When Writing to Advertisers.

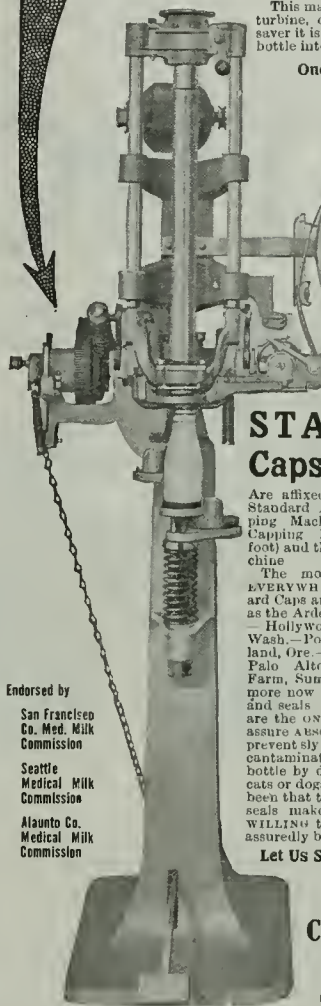
The Machine That Makes the Perfect Milk Package!

Here is the machine that the most progressive, largest, fastest growing dairies in America have welcomed!

This machine is automatic. Is driven by either 1-h.p. motor, steam turbine, or from line shaft. As a time-saver, labor-saver, bottle-saver it is a WONDER. To cap bottle the operator simply slips bottle into bottle rest and trips clutch pedal.

One Revolution Cuts Out a Cap, Forms It Tightly On Bottle and Clutch Ring Into Place

With this machine ONE man can easily cap and seal 2,000 bottles per hour! even when bottles are clipped, this machine will cap them PERFECTLY tight. So made that there is NO CHANCE for any dust, dirt or oil to drop into milk during capping. Write for catalog and information on this machine, as well as automatic capper.



STANDARD Caps and Seals

Are affixed to bottles with this Standard Automatic Single Capping Machine, Standard Bench Capping Machine (operated by foot) and the Hand Capping Machine.

The most progressive dairies EVERYWHERE are adopting Standard Caps and Seals. Such concerns as the Arden Dairy, El Monte, Cal., Hollywood Farm, Hollywood, Wash., Post Norma Farm, Portland, Ore., F. G. Sloane Dairy Co., Palo Alto, Cal., Orton Dairy Farm, Summer, Wash., and scores more now use these superior caps and seals. They know that they are the ONLY caps and seals that assure ABSOLUTE protection—that prevent any meddling—that prevent contamination of pouring lip of bottle by dirty hands, impure ice, cuts or dogs. Their experience has been that the use of these caps and seals make housewives, mothers, WILLING to pay better prices for assuredly better milk.

Let Us Send You Samples.

STANDARD CAP & SEAL CO.

341 Wells St. CHICAGO, ILL.



Berkshires—Guernseys

OUR BERKSHIRES are the finest in the State. At the last State Fair we entered in fourteen classes and won ten firsts.

FIVE HERD BOARS IN THE HERD. Stock of all ages for sale.

We offer for sale Bull Calves of A. R. breeding on both sides. Some of the younger ones are by DON ADONIS OF LINDA VISTA, whose dam, two grand-dams and two great-grand-dams have an average record of 714 pounds butter-fat in one year.

GRAPE WILD FARM

A. B. HUMPHREY, Owner.

MAYHEWS, CAL.

Farm Located Eight Miles From Sacramento on Folsom Road.



Raymond 8th's Desire of Lewison.

ALTA VISTA HERD OF REGISTERED

GUERNSEYS

Owned by Chas. G. Lathrop, Stanford University, Cal. A number of mature cows, some of them imported, bred and unbred helpers, and some choice bulls. A number of the helpers are bred to Violet's Pride of Iowa, whose grand-dam has an A. R. record of 912 pounds butter-fat in one year. Inquiry or inspection invited.

tion to the equipment of the large city milk plants and one of the most formidable inventions in revolutionizing the milk business that has been made in recent years.

The machine is expensive, costing upwards of \$2,000, and can, therefore, only be used by a comparatively large plant. In Los Angeles we have six of these machines in operation.

Its principle is to draw the product to be homogenized from a tank through a pipe having a very small aperture through which it is forced at several tons pressure and strikes against a small agate disk and flows out into a receiving tank. A much

simpler device called an emulsifier has been devised, which is used to some extent for cream. It probably has no legitimate field, as it forces a jet of steam into the cream and thereby adds water to it.

The homogenizer has a legitimate use, and therefore will always be a part of the equipment of a large city milk or ice cream plant. This use is in rendering a buttermilk or ice cream mixture smooth, and a buttermilk made from homogenized fermented skim milk or an ice cream made from homogenized sweet cream are superior products to a buttermilk or ice cream made from the same materials

not so treated.

Its questionable application, but the one that makes it of great value to the ice cream manufacturers, is the fact that with this machine ice cream and even sweet cream and milk can be made from a mixture of sweet butter, powdered milk and water. As a consequence of this the ice cream manufacturer having one of these machines does not have to carry a large supply of cream to tide him over hot summer weather when consumption is large, but simply has the materials stored in boxes and barrels, and having a good water supply is ready to furnish any amount of ice cream on very short

notice.

Should the supply of sweet butter run short it is only necessary to melt water, which dissolves the salt. The up the salted butter and wash it with butter-fat floats on the surface, and by draining off the water from the bottom, all the salt is removed.

It is difficult to make a milk or cream in this way without a great deal of objection from the consumer, as cream so made feathers out in coffee, and milk has an off taste and appearance. For cooking purposes, however, there is no objection.

Under the State law it is believed that an ice cream, milk or cream so made has to be called by some other name than ice cream, milk or cream, as the case may be, and it is probable that during the present year a prosecution will be brought in Los Angeles to test the legality of calling a product of this kind ice cream. A product so made, however, is chemically perfect and, therefore, analysis of such a sample will not detect the fact that it is a homogenized product. If this machine is allowed to be used unmolested, it can readily be seen that ultimately it will result in all ice cream, and at least milk and cream used for cooking purposes, being made in this way. This would cut down the fresh milk industry and lower the price paid to dairymen for milk around large centers of population to the butter-fat basis for which cream is sold in butter making communities remote from large centers where feed and land are much cheaper. On the other hand, if this questionable use is stopped we will be back to the objectionable system of having large quantities of sweet cream stored to meet the enormous demand for this product, occasioned in large cities by the sudden appearance of very hot weather when ice cream consumption doubles or even quadruples. This hot weather at the same time curtails the receipts of sweet cream because much of what would be sweet cream in cold weather comes in sour under such weather conditions. It is a very formidable situation in large cities at the present time, but nevertheless one which will have to be met and settled in all probability by the courts. The courts of this State have decided that condensed milk added to cream is unlawful unless the product is so labeled. As labeling destroys the object for which its use is desired, viz, to make the butter-fat content appear higher than it really is, the adverse court decision has stopped the use of condensed milk in Los Angeles for this purpose.

Following an adverse court decision against the improper use of the homogenizer, it would necessarily follow that regulations against the storage of cream would have to be made. This is stated by the advocates of the free use of the homogenizer that it will make an ice cream famine in large cities in hot summer weather. I am, however, of the opinion that conditions would rapidly adjust themselves to changed circumstances, and hundreds of dairies would be run in a more sanitary condition during hot summer weather in order to get their product in for sweet cream.

The only reason in hot weather that all the products coming to a country creamery are sour is because the dairies are run in such a slovenly manner in regard to cleanliness of utensils and cooling of their product that would not be tolerated under a proper system of inspection.

Even though this product from the improved dairies has to go for butter during the greater portion of the year, the improved sanitary condition will improve the butter a great deal, and we all know the butter supply of California can very well stand considerable improvement in quality.

The Tuberculin Test.

In Los Angeles our tuberculin test ordinance, although lenient in the extreme, was defeated on a referendum vote of the people. This was due to

BRENTWOOD IRRIGATED FARMS

*"Best in
the West"*

The Soil is a sedimentary deposit of great depth and fertility. The **water** comes from the San Joaquin River in abundance through a complete irrigation system of the highest type of construction.

The Climate is excellent—a blending of the interior valleys with that of the Coast.

The Markets are the million people of San Francisco Bay district besides numerous smaller adjacent communities.

Alfalfa, fruit, nuts and vegetables grow abundant crops. There is no better location in the State for dairying, hog and poultry raising.

Brentwood Irrigated Farms are for the man who wants the best. All an expert farmer needs to do is visit the property—he will see enough in an hour to satisfy him.

East of Mt. Diablo in Eastern Contra Costa County.

Price \$300 an acre including water right.

Write today for illustrated pamphlet, maps, etc.

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A. Burness, Resident Agent
Brentwood, Calif.

the fact that money to conduct the campaign was generously contributed by the opposition, and their campaign of misrepresentation so moulded the previously uninformed public mind against the tuberculin test that it was impossible for the Health Department, without funds and with the assistance of a comparatively few private citizens to get the truth properly before the public.

We are, therefore, behind many other cities on this phase of municipal milk regulation, although a few dairies are having the test applied voluntarily.

Duplication of Inspection.

In California, cities, counties and State have inspectors in the field. Thus some dairies are having the undesired distinction of being visited at frequent intervals by three or four different inspectors with different ideas of sanitation, and working under different laws, while others are never visited by any inspectors. In our cream inspection we have to send an inspector two or three hundred miles away from the city to inspect dairies when may be there is a state or county inspector right in that locality. Also certain creameries in remote sections wishing to send buttermilk to Los Angeles are prohibited from doing so because the dairies supplying them cream are not under inspection. We require certain rules to be carried out to get cream into our city, while butter comes from any locality without regard to the sanitary conditions of dairies and creameries where it is produced and manufactured. The conditions under which some of the dairies are run, the product of which goes for butter making, are exceedingly bad. It would, therefore, seem that something should be done to remedy these conditions so that all dairies throughout the State, whether producing sweet milk, sweet cream or butter, would come under the same sanitary rules and regulations. Then commercial interchange of dairy products could take place from one locality of the State to another without any restrictions. Municipalities would not be under such great expense in sending their men so far to inspect dairies, the butter supply would be greatly improved and a famine of sweet cream in summer time would be avoided.

The only way to accomplish such a Utopian condition of affairs would be to greatly increase the State force of dairy inspectors under a civil service system of appointment. At the same time county milk inspectors should be abolished, as they are usually political appointments, and while some of them become deputized under the State Dairy Bureau, the bureau does not have the same control over them which it has over its own men.

The force of men required to properly do this work to the satisfaction of municipal health authorities would be so great that it would be very difficult to get the Legislature to appropriate enough money to carry it through.

At the next session of the Legislature, however, dairy legislation will undoubtedly be presented, and it is to be hoped that those interested in the improvement of California dairy conditions will make a united effort upon some reasonable dairy law that will be a great advance in the improvement of dairy products in this State.

GUERNSEY MILESTONES.

The making of world's records and the attention they attract to the breed that holds the pennant is of undoubted advantage. There are many, however, from other states than Missouri who wish more extended information. Was the cow "a freak," or is she the result of careful mating and breeding of high producing ancestors? Can we so select and combine blood lines or producing dams with proved sires as to give assurance regarding the progeny, and the yield they will give?

Can the breeder determine what breed to select for his special market? Others wish to know, not the phenomenal record made by some animal with extraordinary care and feed. They ask, what may be expected from a herd of ten or more such as I can buy? What is the average production of the Guernsey cow in milk and butter-fat?

To obtain these figures with any degree of accuracy we must turn to the Advanced Register records. As the number available increases the more readily the answers can be given. More than 3000 yearly records of Guernsey cows have now been completed. These show an average milk yield of 8544 pounds milk and 526.80 pounds butter-fat. Considerably over one-third of these were for heifers with their first calf, which makes the showing more creditable; 564 of the total gave from 10,000 to 19,000 pounds of milk, and from 500 to 1000 pounds of butter-fat.

It is conceded that few men like to be considered just average men, as sized up by the production of their herd. They have set a standard, and even aspire to have their cows' names appear among the class leaders. These 35 cows gave an average of 14,597.73 pounds milk and 771.37 pounds of butter-fat, with a test of 5.28 per cent. This is considerably over 2 pounds of butter-fat a day, right through the year, and a very satisfactory showing. Guernsey records show over 82 pounds of milk in one day and 2361.50 in 30 days.

The limit of production is not yet reached. The individual and the average yield of milk and butter-fat for Guernseys is steadily growing. The Guernsey cow not only heads the list at the present time over all breeds, but seems likely to hold it.

WM. H. CALDWELL.

Peterboro, N. H.

BIG SALE PAVILION FOR CORCORAN

The Holstein Breeders of the San Joaquin Valley are contemplating the erection of a large sale pavilion in the near future, either in the town of Corcoran or on the Geo. A. Smith fine stock farm two miles south of town.

The sale pavilion is to be round, with a seating capacity for over 1000 people. The sale ring is to be in the center, with an entrance on one side, above which will be the auctioneer's stand. Opposite the entrance for the cattle to the sale ring will be the exit. The seating will be arranged in theater style, so that no view of the stock being sold in the ring will be in any way obstructed.

The pavilion and its entire equipment and its every appointment will be especially designed and adapted to the holding of auction sales of live stock, including cattle, horses and hogs, especially registered Holstein cattle.

Mr. Smith will, according to his present plans, hold two sales of registered Holsteins annually, one in the spring and the other in the fall of each year. His next sale of registered Holsteins will be about November 1st. He has plans to hold two sales of registered Poland China hogs. These he will raise on his ranch No. 3, where he now has a very fine crop coming on for this first sale. The hog sales are an experiment, as no sale of registered Poland China hogs has ever been held on the Pacific Coast, but as Mr. Smith has made a success of the four sales he has held he will no doubt make a winner of his hog sales as well.

HOLT EMPLOYEES' BIG PICNIC

On Saturday, June 27th, the Stockton, Cal., employees of the Holt Manufacturing Co. held their first annual picnic. The attendance was estimated at between 3000 and 4000, including the 750 Stockton employees of the Holt company, their families and guests.

The day was started out with a pa-

Cut Your Cost of Producing Milk

One of our customers who is using two 20x40 Silos says:

"By siloing my first and last cuttings of alfalfa I cut down my mill feed bills over \$1000.00 in one season, and the feeding of the Ensilage with chopped alfalfa hay increased the milk production from my 300 cows at least 10%. I consider the Silos saved their original cost the first season."



Ideal Green Feed Silos are a De Laval product, made of the best materials in the best equipped mills on the Pacific Coast, and in every essential feature are built to suit California climatic conditions and to produce good Ensilage.

You would not purchase a leaky can for preserving fruit. Why take chances on a leaky Silo when you can buy a perfect Ideal Green Feed Silo.

BUY AN IDEAL GREEN FEED SILO NOW.

Write for latest circular D for full information.

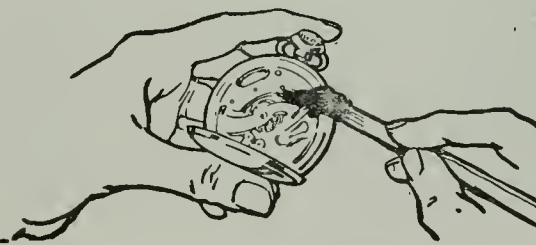
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You Wouldn't Put Axle Grease on Your Watch

Isn't it almost as ridiculous to use ordinary farm oil on your cream separator? It's delicate mechanism demands a special oil. We make good harvester and gas engine oils, but we do not recommend them for separators. If your separator is to do its best work, you must lubricate it with

Standard Hand Separator Oil

It is made especially to suit the peculiar mechanism of cream separators. It is of just the right body. It does not "gum." It keeps the bowl running swiftly and smoothly—you get *all* the cream. There is no better oil—regardless of price. Dealers everywhere.

Standard Oil Company
(California)

rade of the employes through the main streets of Stockton. The men were grouped by departments, and the women employes rode in automobiles. The parade was headed by a platoon of police and a band. Following came Benjamin Holt, the President of the company and the only surviving one of the original Holt Brothers. The hundreds of men employes (one bystander counted 684) marched four abreast. Twenty-seven automobiles carried the women and aged employes. Bringing up the rear were an auto truck loaded with plows, another truck carrying a motor, the Midget Caterpillar, the Baby Caterpillar, the 75-horsepower Caterpillar and a self-propelled harvester. The parade extended ten blocks in length.

Following the parade every one went to the picnic grounds at Oak Park and the balance of the day was given over to sports, music, dancing, a vaudeville show and moving pictures, which included several reels showing Caterpillars in operation.

The picnic, which had begun with the parade at 9 o'clock in the morning, did not end till the music of the orchestra was stopped at midnight.

The idea of a company giving its employes a play day with full pay is a new one in this part of the country. The success of the idea, in spite of the fact that the picnic cost over \$5000, is evidenced by the announcement that the affair will be made an annual event.

Kindness and Good Feed Play an Important Part in the Development of A. R. O. Cows

(Written for The Live Stock and Dairy Journal by M. M. Holdridge.)

To officially test a herd is necessarily slow work. Either the herd must be purchased with mature cows with records, or built up with young stock and developed. The latter way is probably the better way, as official test work requires judgment and growth on the part of the owner or care taker. In fact, as much depends on the feeder as on the cow.

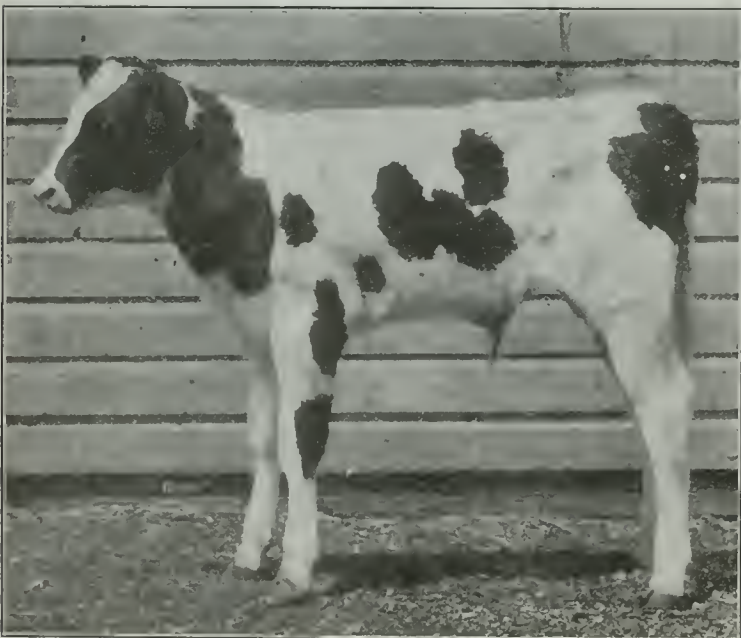
When cows are bought that have nice A. R. O. records—in other words, that have had care and effort spent on them—unless the new owner knows something of the feed required and watches the individual cow to see if she is pleased with her milker and surroundings, he is apt to be disappointed with dairying in general and high priced purebred stock in particular.

The best way to start in the business seems to be to work into it gradually and grow with its growth. Then there is a pleasure in making a record that subsequent ownership never gives. Better buy the best you can afford—less in numbers than you expected if necessary to secure good stock. Usually rather old cows can be bought quite reasonably, and their heifers will surprise you if the old cows were bred to a fine sire. You can then feed the heifer well and make her gentle and she will love you and when she is put to the effort of a big record you will be well acquainted with her and know her likes or dislikes. Maybe you will have raised a "champion." Who can tell? Anyway, you will have a fine cow for butter-fat and a good deal of satisfaction out of the experiment.

"Hitch your wagon to a star," plan for a big record and hope for one, anyway.

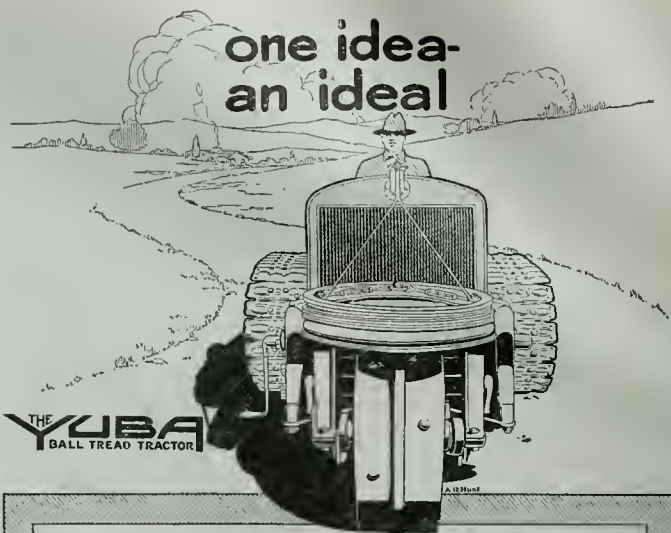
We believe that a grain ration is necessary for a good cow the year around, and we don't believe in having a dairy cow that is not a good cow. Either she is or is not worth keeping. If she is good, a little grain will make her better. It will build up her body when she is in the last of her lactation period and when dry, and make her able to produce more when fresh, carry her over the trying period of heavy production by accumulated flesh. It is not right for a dairy cow to be a bundle of bones just because she is putting much of her feed daily into the bucket, so build her up when she will put on flesh and she will not look so woe begone.

We hate to see a thin dairy cow. We feel sorry for her, and something is wrong if she is extremely thin. People used to say a good dairy cow had to be thin. It is a frequent expression heard by visitors to the herd: "Your cows are too fat." "Your cows seem to give lots of milk, but they look too fat to be good dairy cows." If they realized the care and effort put on them to make them carry a little flesh they would not say that. It is natural for the Holstein-Friesian cow to carry a well rounded frame. These same cows can be reduced to a thin condition in two or three months by taking away all the food excepting what they need for the milk flow they are giving, and they will not shrink much in milk, either, but will take it from thin bodies instead. Breeders



KING SEGIS PONTIAC CHICAGO.

This Bull Calf Sold for \$20,000 in a Public Sale Held Recently at Chicago, and Was Purchased by a Company of Four Men Who Own Purebred Herds.



One idea—a new one—that of fitting a ball bearing to a tractor drive wheel, forms the foundation of The Yuba Ball Tread Tractor.

On that foundation is built a machine which embodies other ideas—some new and some not—some taken from tractors, some from automobiles and motor trucks, and some developed by the designers.

In The Yuba Ball Tread Tractor these ideas are combined to produce an ideal machine for farm and general road work—powerful, compact, dependable, easy and economical to operate; able to turn in an orchard row, in the bottom of an irrigating ditch, on top of a levee, or in a narrow roadway; usable to prepare the land in Spring, operate the pumps to irrigate in Summer, harvest the crop and haul it to market in Autumn.

There is a booklet telling how.

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Dept A1 433 California St.

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EXPERT LIVE STOCK AUCTIONEERS

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TANKS—TANKS

Wine, Water and Stock Tanks made from selected stock, and with experienced workmanship. Rectangular Tanks and Water Troughs, Tank Towers and Windmills. All inquiries will receive our prompt attention.

Make \$2000⁰⁰ more per Year

You Can Make Big Money With a well machine that makes irrigating wells fast and at a low cost. Demand for such wells is unlimited in California and the entire Southwest. The best and fastest machine for this work and this territory is the

IMPROVED POWERS COMBINED BORING AND DRILLING MACHINE

Bores thru gravel, sand and clay like a streak of lightning. If rock is struck it drills thru that. Forces casings perfectly. One man and one team can run it. You can make \$1 an hour for your spare time.

Write today for catalog and EASY PAYMENT proposition.

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THE HINMAN MILKING MACHINE COMPANY

Sold 200 machines the first year,
1906.

SOLD OVER 1000 MACHINES IN
THE MONTH OF MARCH, 1914.

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C. F. Daniells & Son
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Distributors for California and Oregon.

Cattle and Hogs

I am able to supply cattle and hogs of nearly all breeds at prices well within the utility value of the animals. To parties wishing car lots of dairy cows I offer my services either as purchasing agent or as judge and assistant in securing the desired animals. If you are figuring on buying stock in the East or Middle West, write me your wants, as I may know of exactly the stock you wish.

H. T. MORGAN, GLEN ELLYN, ILL.
Live Stock Purchasing Agent.

have seen it done with cows which they have sold. They have said they milked just as well as when they got them—"couldn't do better"—but they surely grew thin.

We plead for better care of the cow, and also the calf. Don't take the fresh milk away from the calf at two weeks, as so many dairymen do. If her mother is a good cow and you are proud of the calf and intend to raise it, give it fresh milk six weeks or two months at least, increasing the last month—not feeding too heavy at first. Give a handful of grain after the milk, and see what a fine growth will be made. We have heard dairymen say that they raised the veal calves on fresh milk and the heifer calves they picked out as the best, on skim, after a week or two weeks. Surely they are making a mistake. Remember, it is the calf's natural food, and we are robbing the calf. But with a good cow there is enough for both of us, so highly has the modern cow been developed.

The better they are cared for while young, the better cows they make. It always pays to keep the heifer growing.

It has been the policy of the Cream-cup herd to sell the cows in their prime and retain the most of the heifers. After one has raised a heifer, one wishes to see what record it will make.

One must love stock to succeed with them. One needs to love, to handle and caress them, so that they will know they have a friend.

Nothing resents rough treatment as does a good cow. A dog will stand a good deal of rough treatment and still lick the hand of the one he knows is his master. But a cow will not like anyone who is cruel to her.

After studying different animals we are convinced that a cow or calf, when purebred and petted, is one of the most intelligent we have. Try one for a dumb friend and see for yourself by experience.

We wish someone who has beaten a cow in a fit of temper would take a sample of the milk at that milking and test it for butter-fat. Perhaps he would be kinder in the future, because it pays, if for no other reason.

If you wish to dairy, buy the best purebred cows you can secure, and then treat them as dairy queens.

WASHINGTON BREEDER BUYS
SELECT BULL FROM MORRIS

One of the most desirable young bulls that ever left California, in our judgment, is Segis Pontiac Acme, recently selected by Mr. J. H. Hulbert, Jr., to head his splendid herd of registered Holstein-Friesians at La Connor Flats Stock Farm, Lo Connor Flats, Wash. This bull was purchased from A. W. Morris & Sons Corporation, Woodland, Cal.

Mr. Hulbert spared neither time nor expense in locating an animal which represented his idea of a ideal herd sire. Being an excellent judge of dairy type as well as of pedigree, Mr. Hulbert was not satisfied with anything but the best available. He found the individuality of Segis Pontiac Acme to his satisfaction, and he next looked to his breeding, records, type of ancestors, etc. The sire, King Segis Pontiac Emperor, left nothing to be desired as an individual, and his breeding was in line with Mr. Hulbert's requirements, combining in the closest manner the blood of the breed's greatest transmitting sires, Pontiac Kordyke, Hengerveld De Kol and King Segis.

On coming to the dam of Segis Pontiac Acme he found his ideal type of cow in Sadie De Kol Acme, daughter of Riverside Sadie De Kol Burke. The next thing to be considered was the production of the dam and her ancestors. It was imperative that the dam and dam's dam have large yearly milk and butter records, as Mr. Hulbert did not consider a 7-day record a



Nature's Gift to Dairymen

A TRULY WONDERFUL FEED

Larowe's Dried Beet Pulp is the pure shredded root of the sugar beet, with only the sugar and water extracted; dried, sacked and ready for shipment in one hour from the time the beets enter the factory. It is clean, healthful, succulent, and cannot ferment or sour if kept in a dry place.

Larowe's Dried Beet Pulp improves the health and increases the flow of milk. It furnishes more succulence than silage, greater digestibility, an abundance of carbohydrates—and is just what is needed with alfalfa to make a perfectly balanced ration.

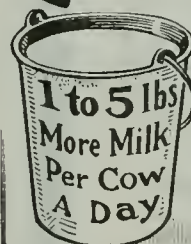
Larowe's Dried Beet Pulp is uniform in color; never blackened or burned. It is light and bulky; swells to about six times its original bulk when moistened. Cattle take to it ravenously.

Order a sack from your feed dealer today and try feeding it to one cow whose milk record you know—and watch results.

Write for booklet—"Profitable Feeding," with feeding instructions and information.

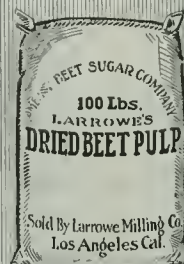
The Larowe Milling Co.

Sixth Floor Central Bldg. Los Angeles



Larowe's MOLASSES-Dried Beet Pulp is preferred by many feeders on account of its sweetness. Just the plain beet pulp with beet molasses dried. Splendid for fattening; also for horses.

Prove
its
Worth
With
One
Sack



ORDER FROM
YOUR DEALER
Now

SHORTHORNS MILK STRAIN

Attention Dairymen!

I am breeding the finest stock in the West. Write for prices and pedigrees.

JOHN LYNCH Petaluma, California

DUTCH BELTED CATTLE

My herd of registered Dutch Belted Cattle has won at many of the principal shows of the United States in the strongest competition.

At 1912 Oregon State Fair won every first prize but two, and all Champion and Grand Champion prizes.

At 1912 California State Fair won all first prizes but two, both Gold Medals and all Championships but one.

I have Young Stock of the finest quality for sale.

Write for circular and prices.

FRANK REED SANDERS
MESA, ARIZONA.



Echo 2d's Orchard Daisy
Grand Champion Female 1912 Oregon, California and Arizona State Fairs.

EXCEPTIONAL OPPORTUNITY TO SECURE THE TYPE, WELL BRED, REGISTERED BULL,

RIOTER OF THE GOLDEN WEST, 103971

Pedigree:	Grand Riotor (57524)	Recorder (29239)	Combination 3d Brown Bessie
		Calcina (80702)	Herotas Calcium
	Leek's Fern McPherson (176330)	Fame's Silver Pedro (40056)	Pedro's Silver Riotor
		Dodge's McP. Pansy (174413)	Pedro's Fame

This bull is 3½ years old, a fine individual, and will make a profitable sire for someone. Price \$400.

WILLOWWOOD JERSEY FARM, TULARE, CALIFORNIA
C. G. McFARLAND, Owner.

JERSEY TYPE

We have a few handsome, vigorous young bulls out of our best cows and sired by MERRY MAIDEN'S CONQUEST, a son of MERRY MAIDEN'S 3D SON, Grand Champion Jersey bull at St. Louis Exposition.

By owning one of these bulls you can introduce into your herd the blood of one of the best bulls of the breed.

Come and see our herd or write your needs. Prompt attention to correspondence.

B. & F. RANCH, F. O. FRAZIER, COVINA, CAL.

JERSEY QUALITY

Rancho Santa Marguerita
Registered Jerseys

OFFICIALLY TESTED
D. F. CONANT

R5, Box 64

Modesto, Cal.

Position Wanted

Want steady work on farm. Good milker, experienced in butter making, certified dairyming. Strictly temperate, clean, reliable American; married. Wages reasonable. L. DAVIS, Gen. Del., Oakland.



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Wherever you see the Red Crown sign you can buy an honest, reliable gasoline—the uniform—quick acting—clean burning kind that gives you full power—that costs you least *per mile*. Red Crown is not a “mixture,” but a straight distilled, refinery gasoline—the best the Standard Oil Company can make. In gasoline, it is economy to buy the best.

Red Crown signs are furnished to all dealers handling Red Crown Gasoline. Watch for the Sign or ask our nearest agency about delivery in bulk.

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Cost of Leveling Cut

With Schmeiser Machines it is now possible to prepare land for Rice and Alfalfa at a Reasonable Figure.

WRITE US NOW

Say how much land you have to level and check and what kind of land it is. WE HAVE A MACHINE FOR YOUR WORK.

Schmeiser Manufacturing Co.
Box No. 200 DAVIS, CAL.



KING SEGIS PONTIAC ALCARTRA.
The Registered Holstein-Friesian Bull in Which a Half Interest Was Recently Sold for \$25,000 by John Arfmann of New York State.

sufficient criterion of their value. Sadie De Kol Acme has a semi-official record of 19,002 pounds of milk and \$85 pounds butter as a junior 4-year-old, and her dam, Riverside Sadie De Kol Burke, has a record of 1068 pounds butter in one year and 2065 pounds in two consecutive years. Her yearly milk record is 28,826 pounds, and she is the only cow in the world that has averaged 100 pounds per day for six months. Her sire, De Kol Burke, ranks among the leading A. R. O. sires, having seven thirty-pound daughters.

DeKol Burke and the four sires mentioned above now have together thirty-five 30-pound daughters, or as many as any other eight sires in the world. The dam, grand-lam and great-grand-dam of Segis Pontiac Acme have yearly records averaging 24,382 pounds milk and 1080.81 pounds butter.

After looking over all of the best young bulls that were being offered in the Northwest, Mr. Hulbert was well pleased with Segis Pontiac Acme, and with the opportunity which he will have in Mr. Hulbert's select herd we predict that much will be heard from him later.

CHARACTERISTIC

Elsewhere in this issue is a ninteresting article by M. M. Holdridge, owner of Creamcup herd of registered Holstein-Friesians, Modesto, Cal. The many Journal readers who have visited Creamcup herd and absorbed somewhat of the kindness and thoroughness of the breeder, will find standing out all through the article the ideals which have shaped Creamcup herd to its present high efficiency.

While this herd is comparatively small, it is undoubtedly more thoroughly tested officially than any other herd in California. Practically every cow in the herd is A. R. O., and the average is high. The writer has frequently heard experienced breeders express the belief that calf feeding is done better in Creamcup herd than in any other herd in the State, and the appearance of the herd goes to bear out this conviction, as does also the expressions of the owner in the article referred to in this issue. The whole herd, from the littlest calf up to the herd sire himself, shows unmistakable signs of good feeding, kind treatment and correct breeding.

As it is necessary to keep the size of the herd within certain limits, it has been the practice to sell the cows out of the herd when they are just in their prime, and replace them with heifers coming on. These heifers are all placed on official test as soon as they come in milk, and in this manner a close check is kept upon the matings. We have a picture of the herd sire,

Creamcup Pontiac Burke, on the front cover of this issue. This bull is being given an opportunity to establish himself as one of the leading Pacific Coast sires of the breed, for as the cows in the herd have practically all established high A. R. O. records it is seldom that a bull has the chance that this one has.

Individually he is of an unusually high degree of excellence, and his breeding well qualifies him for the position at the head of Creamcup herd.

Creamcup Pontiac Burke is sired by King Pontiac Ruby Burke, a son of King of the Pontiacs, and out of the 25.69 pounds A. R. O. cow Ruby De Kol Burke, King Pontiac Ruby Burke was junior champion at California State Fair, and although a young sire, he already has three A. R. O. daughters.

The dam of King Pontiac Ruby Burke is Novena Creamcup, with an A. R. O. record of 22.45 pounds butter in 7 days. Her sire is Salambo Lad, sire of 6 A. R. O. daughters and two proven sons, and that he came honestly by his productive quality is indicated by the fact that he is by a son of Sarcastic Lad and Colantha 4th.

None of the daughters of Creamcup Pontiac Burke are in milk yet, but they are as sweet lot of heifers as one can find in many a day's travel in localities where registered Holstein herds are more plentiful than they are in California, and there is every indication that they will produce well up to what is expected of them.

Young bulls do not stay long in Creamcup herd. Discriminating buyers learned long since that practically every bull calf born in the herd is either out of an A. R. O. cow or if the dam is a heifer with first calf that she will soon be an A. R. O. cow, and the young males hardly get to spend their calfood days in the pleasant surroundings of Creamcup herd before some buyer comes along and carries them off to a new home. The best we can hope for such a calf is that his new home will equal in opportunity the farm of his birth.

JERSEY BULL

I offer a Choice, Young, Registered Bull, backed by most approved breeding and production. This is an opportunity to get a good one. He should go to head a pure-bred herd.

S. F. WILLIAMS

ZHICO, CALIFORNIA.

VENADERA HERD

of Registered

JERSEYS

Guy H. Miller, Prop.

MODESTO CALIFORNIA

FRESNO FAIR OFFERS \$2500 IN PRIZES

Live Stock and Dairy Departments to Fare Well—Many Improvements This Year.

The Fresno district fair is making its live stock and dairy department one of the most complete of any fair in the West. The prizes offered are substantial and the provision for stock is more modern and convenient than have been made a part of any fair ground equipment.

Those who have exhibited at Fresno will be interested in knowing that the dairy exhibits are to be in the extreme south end of the grounds in a small field not previously used. Here new sheds are to be built, and the arrangements will be much more convenient than heretofore. This position will be away from the noise of the general exhibits, and those who are interested in this department will be able to visit it with much more pleasure.

Plans have been drawn for a model dairy barn. This will be modern in every particular, and will be built in such a manner that additions can be made from year to year. Every care and precaution will be taken to give exhibitors full satisfaction in every way.

DR. STETSON BUYS THREE GOOD COWS

Dr. Ben Stetson of Napa was a visitor to the Holdridge Creamcup herd of registered Holstein-Friesians last month, looking for some good foundation cows. He secured three A. R. O. cows that would do credit to any herd of purebred cattle. Arabella E is a noble matron, with four A. R. O. daughters, two of them with records of 25 pounds of butter in 7 days. She has a record of 23.74 pounds, and as an individual would be very hard to equal. The other two cows are full sisters, with records of 18.8 and 20 pounds butter in 7 days, and are from a family of high testers. All are due to

freshen soon from the Creamcup herd sire; two from Creamcup Pontiac Burke, whose picture is on the front page of this issue. The doctor certainly has three cows to be proud of.

MORRIS HOLSTEINS FOR HONOLULU

Agricultural College at Honolulu, Hawaii, recently purchased two excellent registered Holstein-Friesian cows and the bull, Creamcup Korndyke Cornucopia, that was junior champion at the 1913 California State Fair. This is a choice trio, and should prove a valuable addition to the dairy stock of Hawaii.

BREEDERS' CONSIGNMENT SALE

It seems likely that there will be a consignment sale of registered Holstein-Friesian cattle held in the lower San Joaquin Valley late in October, after all the fairs are over. If present plans mature there will be an offering unapproached in quality by any previous sale held in the State.

A RARE OPPORTUNITY.

For the first time in the history of breeding in California buyers are going to be afforded an opportunity to buy high-class registered jacks and jennets at public auction.

The formal announcement will be found on the back cover of this issue. The reason for the sale is that the owner, W. J. Greer, has leased his breeding establishment, Purebred Farm, for dairy purposes and will have no place to carry his long-eared herd.

The sale will be held at Sacramento, at Agricultural Park during Fair week, and fifteen head of registered jacks and seventeen head of registered jennets will be sold. Many of these were prize winners at last year's State Fair, as out of ten entries this herd won five first and five seconds.

Among the offerings is the good jack, Baby Giant.

There is also an exceptional lot of



"DOG DAYS" the best time to buy a **DE LAVAL** SEPARATOR

THERE WAS NEVER BEFORE as good a time to buy a De Laval Cream Separator as right now.

THE "DOG DAYS" ARE AT hand when dairying is most difficult without a separator and when the increase in quantity and improvement in quality of cream and butter are greatest through the use of a good separator.

THEN THERE IS THE GREAT saving of time and labor, which counts for more in summer than at any other season and often alone saves the cost of

the separator, aside from all its other advantages.

THIS IS LIKEWISE THE SEASON when De Laval superiority counts for most over other separators,—in closer skimming, larger capacity, easier running, easier handling, easier cleaning and absolute sanitation.

A DE LAVAL CREAM SEPARATOR bought now will easily save its cost before the end of the year, and it may be bought for cash or on such liberal terms as to actually pay for itself.

Look up the nearest De Laval agent AT ONCE, or drop us a line and we will have him look you up.

DE LAVAL DAIRY SUPPLY COMPANY

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SEATTLE

50,000 BRANCH AND LOCAL AGENCIES THE WORLD OVER

jennets in the herd. One of them has been an unusually good profit maker for Mr. Greer. This is the jennett Lelia. In five years Mr. Greer has sold \$3650 worth of colts from her, and there will be two of her colts in the sale. She has dropped a jack colt every year but one.

Another good one is Puss, dam of Alphonse, the \$2000 jack owned by Monterey Mule Co.

Every animal in this sale is registered, and every animal is backed by Mr. Greer's guarantee. To those who know him it is not necessary to say more.

Count on Attending.....

The 1914

CALIFORNIA STATE FAIR

AT SACRAMENTO, SEPTEMBER 12 TO 19. INCLUSIVE

THIS YEAR THE BIGGEST EVER

A Few of the Features Include

Live Stock Show, exhibiting the pick of the Pacific Coast Farms. Horse Show, including special Saddle Horse events. Automobile Show, the largest exhibit of cars in the West. Dairy Products Show, with butter making contests. Poultry, Pigeon and Pet Stock Show, unexcelled anywhere. Farm Implement Show, with interesting demonstrations. Wonderful displays of California's Resources and the products of the Farm, Factory and Home, and other Attractions too numerous to mention here, making in all a Big Week of Enjoyment for Everybody.

Special Rates on all Railroads, Trolleys and Steamboats

FOR FURTHER PARTICULARS APPLY TO

CALIFORNIA STATE AGRICULTURAL SOCIETY

A. L. SCOTT, President

SACRAMENTO

C. W. PAINE, Secretary

THE IMPORTANCE OF LIVE STOCK AND CROP ROTATION

The importance of keeping live stock and of practicing a rotation of crops in maintaining the producing capacity of the soil is becoming more apparent each year on the State College farm. Three plots show this fact very strikingly. One plot has been growing wheat continually every year since 1899 without any manure or other fertilizer being applied. The second plot has grown wheat every year since 1899, but has had a light application of manure plowed under each fall. The third plot has had no manure applied, and has grown a crop every year, but a rotation of wheat one year, oats one year, clover two years and corn one year has been carried on since 1899, the 1914 crop being wheat.

The important lesson to be observed at this time is that the plot that has grown wheat continually without manure promises a very low yield. To the observer the plot that has been manured and the plot that has not been manured, but has grown a rotation, show an equally good growth of wheat at this time and show a better growth than they did fifteen years ago.

The plots show (1) that the fertility of the soil may be maintained either through the use of barnyard manure or by a rotation of crops that includes clover or some equally good soil improving crop; (2) that it is kept in a high state of fertility. It is not necessary to practice summer fallowing with the rainfall received at Pullman, either to give the land a rest or to conserve the moisture of two seasons for the growth of one crop. If the soil is sufficiently fertile, one inch of rainfall may carry more food into the plants than two inches of rainfall may dissolve and carry to the plants from a very poor soil. This is beginning to be very apparent in the field practice on the college farm. Except in small experimental plots, summer fallowing is no longer practiced on the state farm, but a rotation is followed that involves cropping annually with clover, alfalfa and peas grown periodically to improve the soil and corn to serve as a soil cleaning crop. (Corn is a soil cleaning crop only when it is properly cultivated. Corn itself has no effect in cleaning the soil).

One twelve-acre field lying on a south slope was in summer fallow in 1894. It has grown a crop every year since. Every five years a well cultivated corn crop has helped to keep the soil in good tilth and free from weeds, while peas and clover, interspersed at about like periods, have served to keep up the supply of nitrogen and humus. The field now produces much better than when it was first taken over by the college. In 1911 it yielded forty-seven bushels of wheat per acre. In 1912 it yielded forty bushels of peas per acre. In 1913 it yielded forty-six bushels of wheat per acre. At present there is an excellent crop of oats growing on this field that will produce a very satisfactory yield if the season is fairly normal from now to harvest.

The rich color and rank growth of nearly all crops on the farm are beginning to show the effect of the use of barnyard manure and the growing of peas, alfalfa and clover. One of the fields last purchased has not yet received a treatment of clover or alfalfa and the yellower, more spindling growth of the barley shows a striking contrast to the ranker growth on the other fields.

The importance of maintaining a high state of fertility applies equally well to the semi-arid regions and to the moist regions of western Washington. While it would be impossible to grow a good crop annually with the very limited rainfall of central Washington,

it is quite possible for the low rainfall to be much more efficient with plenty of fertility available to dissolve and carry to the plants. The number of crop failures can be very materially reduced and the average yields greatly increased by keeping more live stock, saving and applying the manure carefully and by growing soil improving crops to keep up the fertility. Many sections of western Washington might grow two crops per year or three crops in two years where they are now scarcely able to grow one good crop, if the soil were kept in a higher state of fertility.—Experiment Station, Pullman, Wash.

MAKING BUTTER ON THE FARM

Butter making on the farm is commonly done in the kitchen in the winter time, and at irregular intervals. The cream is usually collected in small lots from day to day and held until a sufficient quantity is on hand to churn. This method is quite frequently attended with many difficult churnings that vex the experienced butter-maker.

Under such circumstances one of the first kinks met with in churning is the condition of the cream. It may be too thick, which makes it very sticky; or too thin, in which condition the fat globules are so far apart that they gather with considerable difficulty. If the cream is separated so it will contain from 25 to 30 per cent of butter-fat, it should be in good condition to churn rapidly.

Another common kink is low churning temperature. In the summer time, when the churn, the cream and the surroundings are warm, the cream will churn with little difficulty at about 54 degrees, but in the winter time when these conditions are all reversed it may require a temperature of 62 degrees or more to get results. The particles of butter-fat have to be in a plastic condition in order to collect in the churn. If the temperature is too low the fat globules may strike one another several times before sticking to each other, thus prolonging the churning. A dairy thermometer is an actual necessity in every home where cream is handled. Guessing at temperatures is certainly out of date where butter is worth 30 cents per pound.

Kink No. 3. Cream does not sour so rapidly in the winter time owing to the low temperature, so it is often too sweet when put into the churn. Sweet cream is extremely viscous or sticky, so does not release the fat readily during the process of churning. The remedy in this case is to set the cream in a warm place where it may be kept at a uniform temperature of 70 degrees F., or room temperature, until it becomes rather sour to the taste before it is put into the churn.

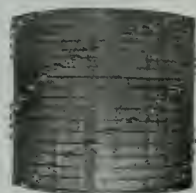
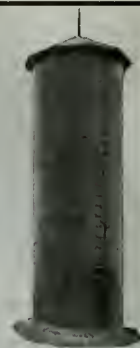
A fourth kink is found in the butter-fat itself. Butter-fat is composed of several fats varying in degree of hardness, also in relative amounts. In the summer time when the cows have plenty of green, succulent grass the soft fats are present in comparatively large amounts. In the winter time when the cow is on dry hay and grain feed just the reverse is true—the hard fats being relatively high. To overcome this kink in churning the cream, feed the cow on corn silage or root crops to supply the necessary succulence in her feed so as to keep the proper balance between the hard and the soft fat in her milk.

Kink No. 5. Occasionally difficult churnings may be traced to some cow that is well along in her lactation period and about ready to be dried off. Advance in lactation period frequently results in reducing the amount of soft fats and increasing the hard fats. It may also be attended by a material reduction in the size of the fat globules. On account of the small size and firmness they do not readily adhere to one another during agitation. A good

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From 500 to 500,000 gallons capacity. Built to suit all uses and users. Will outlast ten metal tanks and costs less than one.

PIPE

Machine Banded and Continuous Stave. For water supply, power and irrigation.



ALL DESIGNED by our expert engineers. Made in our own immense factory from clear, air-dried redwood, selected from AIR-DRIED STOCK OF 40 MILLION FEET, which we carry at our plant at ALL times. Write us for prices.

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Chicago	\$72.50	Omaha	60.00	New Orleans....	70.00
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This line traverses California and the SACRAMENTO VALLEY, reaching all Ocean Beaches, Mountain and Lake Resorts, the Numerous Curative Springs and SAN FRANCISCO, the Finest Summer Resort in the World.

For Information as to Rates or Routes
Apply Any Railroad Agent or

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Sacramento, Cal.

remedy is to raise the churning temperature of the cream. This softens the fat globules besides rendering the cream less viscous so the fat globules are more readily released.

The last kink is in the way the churn is filled. Under no conditions should the churn be filled more than half full, and with small churns one-third full is sufficient. The butter-fat globules are brought together during the agitation, and unless there is room left in the churn the concussion or force with which the globules strike one another will not be sufficient to cause the particles to cling together.

The best way to avoid kinks in churning is to locate the cause as quickly as possible, then supply the proper remedy. G. L. MARTIN.

HOLSTEINS

We are offering six grade Holstein heifers of various ages, some of them in milk. These are all sired by purebred bulls, and out of dams that are among our best dairy cows. The sire of most of these heifers is Woodcroft Pontiac Prince Inka, whose ten nearest dams average 25 pounds butter-fat in 7 days. This is an especially fine lot of heifers, and would make a good foundation for a dairy herd.

We are also offering three registered Holstein-Friesian bulls ranging in age from 3 months to 3 years. These bulls are backed by high A. R. O. breeding on both sides, and are individuals of the best type. Call and see the stock or write for prices and pedigrees.

PANAMA PACIFIC DAIRY,

Laura J. Frakes, Sec'y
Sutter Creek, California

Copa De Oro Herd Holstein-Friesian Cattle

For Sale—Six sons of TIRZAH LA POLKA PIETERTJE LAD, who has forty-three close relatives who have made 30 pounds or over of butter in seven days.

CHAS. JAY WELCH, LOS BANOS, CAL.

REGISTERED

HOLSTEIN-FRIESIANS

H. B. COWAN

Box 512 MODESTO, CAL.

MOORLAND FARM

HOLSTEIN-FRIESIANS

Offers a Splendid Bull Calf, whose 4-year-old dam has just made 22.80 pounds butter in 7 days under official test.

K. W. ABBOTT, MILPITAS, CAL.

REGISTERED

HOLSTEIN-FRIESIANS

Increase the value of your herd by introducing the blood of the greatest producers of the breed. We offer a number of Choice Grandsons of King Segla. Also a number of Grandsons of the world's record cow, Creamelle Vale. Write or call and inspect our herd.

F. & H. STENZEL, SAN LORENZO, CAL.

CREAMCUP HERD

HOLSTEIN-FRIESIAN CATTLE and O. I. C. SWINE

Bull Calves for sale from A. R. O. dams, sired by a grandson of King of the Pontiacs, also by a son of Colantha Johanna Lad.

M. M. HOLDRIDGE,

WOOD COLONY, MODESTO, CAL.

REGISTERED

HOLSTEIN-FRIESIANS

Herd Headed by

Juliana King of Riverside

One of his young bulls, also one sired by Cornelia King and out of high producing dams, for sale.

B. F. ANDERSON,

ROUTE 2, MODESTO, CAL.

REGISTERED

HOLSTEIN FRIESIANS

We offer a grandson of KING OF THE PONTIACS, nearly ready for service. Splendid individual and light in color. Price, \$200.

MCALISTER & SON,
CHINO, CALIFORNIA.

IT PAYS TO COOL MILK AND CREAM

Cooling fresh milk takes time and effort, but it pays. The certified milk producer has to cool the milk, the dairy farmer should do so and the man who milks one cow can make it profitable.

Milk sours by the presence and rapid growth of bacteria, microscopic organisms found everywhere. They are not bugs, as so many believe, but vegetable forms of which the commonest example is the yeast plant. Bacteria get into the milk from dirt, hair, dust-laden air and from the contact with unsterilized vessels. They are not disease germs, but useful and friendly, and necessary to human digestion.

With milk left at its natural temperature after milking, the bacteria increase rapidly and soon sour it by changing the milk sugar to lactic acid. These tiny organisms remain dormant at a low temperature, and if milk is cooled as soon as it is drawn from the udder, kept in clean, scalded vessels, and dirt and dust excluded, it will not only keep much longer, but will have a finer flavor and make better butter.

In large dairies, creameries and milk distributing depots expensive milk cooling devices are used. This is not necessary for the farmer with one to a dozen cows. He can cool his milk quickly and effectively at small cost of time and labor by setting the pail in a tub of cold water and giving the milk an occasional stir. Better still, it can be put in a five-gallon shotgun can, set in cold running water or the water trough or a barrel, and if stirred every minute or two will soon cool down to a safe point. Cream rises better on cooled milk. If a separator is not used, but the cream skimmed by hand the separation by gravity is more complete and cooling will pay in actual profits by the increase in quality and quantity of cream.

In making butter from one or two cows cooling milk is almost necessary to insure good butter. The freshly cooled milk should be set in a cold place. When skimmed the cream also should be kept cold until enough is collected for a churning. Sometimes this will be a week and if not cooled at milking time the cream becomes too sour and rank in flavor. Cold cream from freshly cooled milk sours very slowly, and when churning day comes it will probably have the right amount of ripening for good butter. If not sour enough it may be warmed to eighty degrees, kept so for twelve hours and then reduced to sixty degrees, which is the best temperature for hard, sweet butter.

When a separator is used the cream should be cooled immediately after separating. If sold as cream it will keep longer; if butter is to be made the quality will be improved by keeping the cream cold until it is ready for ripening. If churrings are frequent it is better not to cool the cream, but to put the fresh, warm cream from the separator directly into the ripening vat.

From the amount of poor country butter that finds its way to the grocery store it is possible there is something wrong in the handling of milk and cream on ordinary farms. Cooling the milk first is not the whole program of making prize winning butter, but it is a very important factor in preparing the cream for churning.

Dried beet pulp furnishes a succulent feed in most attractive form. It is put up in sacks, the pulp is thoroughly dried and will keep indefinitely, and it is sweet and wholesome. In many cases it will be found to offer advantages over corn ensilage, depending upon land values, cost of raising corn and number of head of stock to be fed.

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The surest and most inexpensive way to do away with the uncertainty of the productive quality of the sire's blood is to secure a registered bull out of an officially tested dam and sired by a bull from tested ancestry.

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The young bulls that we are offering for sale carry the blood of known high producers. They are strong and vigorous, and possess in a high degree the most approved type of the Holstein-Friesian breed. We offer a range of selection that is unexcelled in the West, and our prices are moderate for the quality of bulls offered.

The demand made upon us for bulls has kept us sold down to calves the greater part of the time, and we advise buyers who will be needing one or more bulls for fall service to make an early selection.

Visitors are always welcome at our farm. Mail orders receive prompt and careful attention.

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ANOTHER WILLOWMOOR AYRSHIRE BULL FOR CALIFORNIA

Slowly but surely the number of registered Ayrshires in California is increasing. Recently we have noted several demands for registered Ayrshire bulls to head grade dairy herds, and in many localities it is a wise breed selection.

The latest buyer of a registered Ayrshire bull is D. C. Carmode of Inyo County, who secured Willowmoor Sentinel 4th from Willowmoor Farms, owned by J. W. Clise, Redmond, Wash.

Willowmoor Sentinel 4th is sired by Willowmoor Sentinel, whose dam, Dorra, has a record of over 21,000 pounds of milk in one year, making her the third largest producing Ayrshire in the world.

Willowmoor Sentinel 4th is a strong, vigorous youngster, backed by high dairy production, and he will unquestionably stamp his individuality upon some of the future dairy cows of Inyo County.

WHAT MAKES MILK AND BUTTER YELLOW?

That the rich, yellow color demanded by the public in dairy products is primarily due to the character of the cow's feed is demonstrated by recent experiments carried on by the United States Department of Agriculture in co-operation with the Missouri State Experiment Station. For some years dairy experts have been studying this question. Their conclusion is that, although to some extent a breed characteristic, the intensity of this yellow color may, within certain limits, be increased or diminished at will by changing the animal's rations.

Chemical tests show that the yellow pigment in milk consists of several well-known pigments found in green plants. Of these the principal one is carotin, so called because it constitutes a large part of the coloring matter of carrots. The other yellow pigments in the milk are known as xanthophylls. These are found in a number of plants, including grass, but are especially abundant in yellow autumn leaves.

These pigments pass directly from the feed into the milk. This explains the well-known fact that fresh, green grass and carrots increase the yellowness of butter, the only standard by which the average person judges its richness. On the other hand, a large proportion of these pigments is deposited in the body fat and elsewhere in the cow. When the ration is changed to one containing fewer carotin and xanthophyll constituents, this hoarded store is gradually drawn upon, and in consequence the yellowness of the milk does not diminish so rapidly as it otherwise would. This yellowness increases, however, the instant the necessary plant pigments are restored to the ration.

Green grass is probably richer in carotin than any other dairy feed. Cows fed on it will, therefore, produce the highest colored butter. Green corn, in which xanthophylls constitute the chief pigment, will also produce a highly colored product. On the other hand, a ration of bleached clover hay and yellow corn is practically devoid of yellow pigments, and the milk from cows fed upon it will gradually lose its color. It is, of course, indisputably true that the breed does influence the color of the milk fat; but vary the ration and there will be a corresponding variation in the color of the milk fat in each breed.

In cows of the Jersey and Guernsey breeds the body fat is frequently of such a deep yellow color that some butchers and consumers look with disfavor upon beef from these breeds. For this prejudice there is absolutely no justification. The yellowness of the fat springs from the same causes as the yellowness of the milk fat, and there is no reason for objecting in one case to the very thing that is prized in the other.

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WILLOWMOOR SENTINEL 4TH.

An Excellent Young Registered Ayrshire Bull Recently Sold by Willowmoor Farms, Redmond, Wash., to D. C. Carmode, Inyo County, Cal.



THE FARM WOMAN'S PAGE

CONDUCTED BY AUNT MARCEL

This department is conducted for the purpose of dealing in a helpful way with the many problems which are encountered by the woman on the farm. Household and home questions from our women readers are encouraged. Address all correspondence for this department to Aunt Marcel, The Live Stock and Dairy Journal, Sacramento, California.

YOUR LITTLE GIRL'S SCHOOL CLOTHES

First and last make the children's clothes plain. Nothing is more out of place or more indicative of a lack of good taste than an overdressed child.

For the school clothes dark colors, made up to wear with bloomers to match and no petticoats are by far the most practical and serviceable. Gingham in pretty checks, stripes and plaids may be had from 12½ to 25 cents per yard. In the cheaper gingham the small checks or chambrays usually hold their color better than the plaids. Pretty plaids and blues may be had in these plain gingham or small checks, but there are certain shades that wash much better than others. A careful study of colors will soon enable one to discern these shades at a glance. They are not the brightest blues or pinks and still they

are not the very pale and delicate ones. Navy blue and white check or black and white small checks always wash and wear well, and do not show the soil very quickly. Extremely pretty plaids may be found in the more expensive gingham in shades of pink and blue that will hold their color well. There is a great deal in knowing how to select gingham, and it will pay to study them and notice the difference in texture and color as to wear. I have seen two pieces of chambray at the same price very different in quality. Kindergarten cloth, Galatea and Percal are also extremely serviceable and suitable, but are somewhat heavier and warmer. The little dresses should be cut on plain, straight lines with little or no trimming aside from bias binding or bands of the plain material to match a shade in the dress.

For winter dresses nothing is so all around satisfactory as serge in plain navy blue or black and white small checks, to be worn with dark bloomers of a cheaper material, such as sateen. In buying serges it pays to get a good quality as it is very wide. One can usually get a good quality at \$1 a yard, and frequently there is very little difference in the \$1 a yard and the \$1.50 except in the weight. However, not everyone can afford to pay these prices, in which case a 50 cent or 75 cent Nun's Veiling, Albatross or wool Taffeta will wash well, although they are a little light for school wear in the country. An extremely serviceable material for winter wear at 25 cents a yard is Poplar cloth. It is not all wool, of course, but is of good weight, washes and wears well and is warm. It is of fairly good width, but not as wide as the serges. These dresses are very pretty made up perfectly plain with a black or red leather belt. If a little trimming is desired, however, a silk braid or piping of some contrasting color are the only kinds appropriate. Blue serge is pretty trimmed in black braid or piped with red or black and white check. Black and white serge is pretty trimmed in black braid or piped with red, bright blue or green.

THE COMFORT OF SCREENED PORCHES.

The comfort of screened porches is so great that one who has once enjoyed them in the country will feel that they can never do without them. On all sides upstairs and downstairs screened-in porches are more than worth the expense attached. Indeed, I think one might reasonably say that it is not too much to screen every porch on the house if it can be afforded. In the first place they very greatly reduce the number of flies and mosquitos to be found in the house, providing screen doors and window screens are still used.

Some people object to them on the ground that they do not look well. I think, however, that when one has be-

come accustomed to them, their appearance is not bad. A screened porch off the kitchen is almost essential. It may be used for vegetables and fruits and a milk safe, to say nothing of cupboards for cooked food. If it is large enough the family will find it a very comfortable and convenient summer dining room. In front or on the side a screened porch may be made into an outdoor living room where couches, chairs, rugs and even a sewing machine may be used to advantage. They may also be used as a playroom for the children, who will greatly appreciate them. There is no need, of course, to mention the many advantages of sleeping porches. In this day of pure food and fresh air it is a worn out subject, but I think there are few people who realize how much more refreshing it really is to sleep in the open on the hot summer nights.

How often we see people scrimping and saving all their lives and going without such simple comforts in order to make an elaborate showing, or worse, to pile up money in a bank. I am very far from believing in riotous living, but as far as we know we live only once on this earth, and the comfort that we take while we do live is all that one really gets out of life. Besides, a few healthful comforts prepare and fit us to do our part in the struggle of life much more efficiently. The old adage, "All work and no play," etc., is more true than we realize, and it is really worth our while to pause at intervals to take a little comfort and pleasure, and to give it to others. Better do without the finery and have the really good things of life.

Hints About Mayonnaise Dressing—In making mayonnaise, Primrose Salad Oil is much cheaper and quite as good as olive oil. Some people like the white of the egg beaten stiff and added to the mayonnaise after it is made. A little whipped cream is also delicious added just at serving, but not to be used if the white of egg is used.

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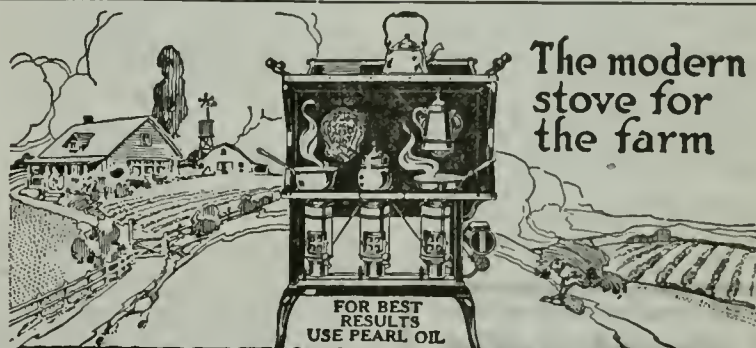
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VETERINARY

Conducted by D. S. KAY, D. V. S.

Questions relating to the health of farm animals will be answered in this column free of charge. Address all communications to Veterinary Department, The Live Stock and Dairy Journal, Sacramento, Cal.

The Live Stock and Dairy Journal—I have a grey mare with a large swelling at base of tail. This swelling burst a few days ago, and it now has a raw appearance and flies gather on it. What is it and what can I do for it?—B. F., Tulare County, Cal.

Your mare has a melanotic sarcoma (cancer). The only thing to do with it is to have it removed by surgical procedure. The operation is a success if you do not wait too long before operation.

The Live Stock and Dairy Journal—I have a draft mare that has a ringbone on both front legs. The right is more affected than the left. How can I cure her?—C. K., Shasta County, Cal.

Blister the parts with Cerate of Cantharides every two weeks until the lameness disappears. Have the horse shod with a short toe, which may be done by rolling the toe of the shoe upwards. Have the heel of the shoe swelled so that a mechanical roller motion shoe is made.

STRANGLES

Strangles is an infectious disease of horses, asses and their hybrids, occurring sporadically and in epizootics. It is characterized principally by a fever, followed by an acute catarrh of the mucous membranes of the upper air passages, especially of the nose, and a suppurative inflammation of the lymph glands of the submaxillary and pharyngeal regions.

The lesions, however, are not restricted to these parts. It is a disease of young animals, was one of the first diseases to be recognized, and has been recorded as early as the sixteenth century, and records prove it to have been known previous to that time. Its infectious contagious nature was de-

termined experimentally in 1790, and since that time by a number of other writers and investigators working in various parts of the world. Their conclusions point to a specific germ as the cause of this disease.

Strangles is a widespread disease of young animals, and appears to take about the same position in equine medicine that measles takes in human medicine, and is consequently more prevalent in the districts where large numbers of young horses are raised.

The disease is caused by a germ which is given the name *Streptococcus Equi*, and when pure cultures of this germ have been injected into horses, the disease has been produced. The disease attacks horses when they have been exposed to it for about a week. The first indications of the disease is a rise in temperature, loss of appetite, depression and often great weakness. These general symptoms may appear for a few days before the local symptoms make their appearance. The first local symptom appears as a catarrh of the nasal mucous lining, or swelling of the submaxillary and pharyngeal lymphatic glands. The nasal discharge is at first serious and of watery appearance, but in from three to five days it becomes purulent and of a yellowish green color.

The catarrhal condition may exist in one or both nostrils. It may extend into the rear of the throat, and even into the bronchial tubes and lungs. In most cases a swelling of the glands of the throat appears to be consistent with the other changes taking place. The spreading of the inflammation to the connecting tissues which surround the glands gives development to enormous swellings which will cover the whole of the region involved, and abscess development next takes place. In some outbreaks of strangles there is often present only the catarrhal symptoms, depression, lack of appetite and fever, with no abscess formation of the glands, perhaps only the catarrhal symptoms, with bronchitis and even pneumonia may supervene. At other times besides the mild symptoms an eruption may break out on the skin with vesicles and nodules which will disappear with as great rapidity as they appeared.

This disease is interesting in that it appears a generalized infection which nearly always becomes local, and in its course it becomes a series, which is exceedingly variable in different individuals. The lymphatic glands suffer most, though any organ may become involved. As indicated by the symptoms, the lesions in most cases are characterized by an acute inflammatory process followed by suppuration. The abscess may become confluent or may develop in only one large abscess. Abscesses may often appear under the mucus membrane of the nose. The disease may become chronic and resemble glanders in that there will often be a chronic discharge from the nose. Death from strangles is caused by either blood poisoning or pneumonia. The duration of the disease varies with the case, no two cases being alike. In mild cases convalescence begins in a few days, but in other cases restoration may require weeks and even months. The mortality is not great as a rule.

The treatment consists of good hygienic surroundings, easily digested soft foods in a limited amount, plenty of fresh water, inhalations of Beechwood creosote or pine tar, internal stimulants and the use of the serum made for the purpose, injected in the subcutaneous tissues in the region of the neck daily.

POULTRY

Eggs From the Orient

In the quality of the eggs from China and those produced on this coast there is a greater difference than many people imagine, the specific reasons for lack of quality in the imported product being from much poorer feeding and unsanitary surroundings than are supplied to flocks on this coast, with the added difference in time it takes to collect, ship and sell them in the numbers imported.

These reasons apply to the consumer, for it is apparent the importer cares not what the consuming public eats so long as his wallet is filled.

It is well known that the Chinese cannot afford, and do not give their hens the same fine quality of feeds in grain and meals that flocks on this coast are fed with, and it is reported by travelers who have been to China that the poultry there act as scavengers for all the residue and filth that happens to be around, for the sanitation is very materially lacking, and any breeder or caretaker of poultry knows a flock will eat any old thing that happens in sight if allowed to do so.

Every experienced breeder also knows that if the flock is fed plenty of green alfalfa, clover, etc., the yolks will be a rich golden yellow, and the whites will have a firmer consistency when good rational feeding of grains and meals is given in addition. He also knows that if the flock is fed onions in quantity for a certain period the eggs will be tainted with the flavor of that vegetable, and similarly in other ways of feeding.

So it is sure the egg is not only produced from what the hen consumes, but the eating and production by the flock of layers have a much closer affinity to each other than most of the consuming public know of, and that the chemical change from the feed of the hen to the eggs for humans to eat is not so changed in entirety as some people vainly imagine.

It was reported in the daily papers some time ago that the City Bacteriologist of the city of Spokane proved conclusively after many exhaustive tests with Chinese eggs that each one contained many thousand of bacteria, so the entire shipment was ordered to be destroyed.

The business in producing, marketing and selling eggs on this coast yearly is immense, many millions of capital are invested, there are thousands of fine ranches devoted exclusively to that business, many thousands of American citizens have their entire capital in the business, and they are dependent on the income of what the hens bring daily.

These men and women pay their part of the taxes, they help support the Government of this country, they up-build and uphold the State by the good homes they possess, they spend every dollar in the country they live in, and they are good citizens from every view point, who should and must be protected in the regular methods of making a decent living for themselves and their families.

These people have troubles enough of their own they cannot avoid in the work of raising poultry and getting eggs, especially when biddy won't or can't lay, but has to be fed just the same with the same old cost of feed apparent, to say nothing of competition from neighboring states, so this question of forcing competition against these people has a far greater significance than is at first apparent, especially so when the foreign competition is offered by a nation that can and does live on about a dollar a week for the entire family, and where a

poultrykeeper there is considered wealthy if he has a hundred layers.

A poultry breeder here pays from \$1.50 to \$2 per hundred for wheat, according to location, and other feeds in proportion, which comes out of his hard earned products, but if the mills and supply houses had to depend on the demand for their materials by a foreign country they would quickly have to close up.

There has been a lot of figurative speech lately on the high cost of living, and it would appear from some of the views held by many of these so-called reformers that the egg cut a big figure in that supposed high cost, but their ideas appear to me to be very much perverted, and they have no logic as to how money is spent individually, or where it gets to collectively.

When it is all considered on impartial lines it is apparent to every right thinking man and woman that the poultry ranchers of the United States must be protected in their rights, for their capital, their business, their homes and their citizenship demand it. J. E. HOLT.

PANAMA-PACIFIC INTERNATIONAL EXPOSITION EGG LAYING CONTEST

While the interest in the Panama-Pacific International Exposition is world wide and is daily gaining in intensity, it is doubtful if any class of individuals have taken a greater interest than the poultrymen.

The announcement that the Exposition would offer \$12,500 in cash prizes for poultry, pigeons and pet stock, and that the Department of Live Stock has planned to accommodate not less than 12,000 birds in the poultry exhibit served to increase the enthusiasm which is always very close to the surface in a poultryman; and now the announcement of the plans for the Panama-Pacific International egg laying contest has doubled that interest and enthusiasm.

The credit for making the first entry in this great egg laying contest belongs to the Missouri Experiment Station, which has made poultry history in the contests which it has conducted. The second entry comes from a well known breeding farm in northern Illinois, and now a friendly rivalry is started between a number of states, and even between different communities in the same state.

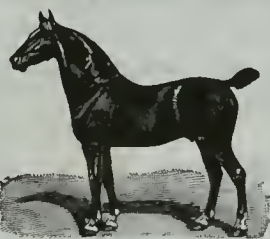
This contest will afford California an opportunity to show to the very best advantage another of her wealth producing industries and remove the stigma which exists in the minds of the people of the Eastern and Middle West states that California is a one-crop State.

Every breeder can have a part in the great Panama-Pacific International Exposition by making an entry in this international egg laying contest, when he might not be able to participate in the exposition in any other way so cheaply. The contest will begin on November 1, 1914, and will continue twelve full months. This is for the double purpose of allowing the millions of visitors from all over the world to see the contest in operation and the methods employed in handling it, and at the same time to attain the educational results which will come in the general increase in quality and productivity of our poultry through the knowledge gained in this contest.

It is well then to remember that the contest begins this year, and that all entries will close on October 15, 1914, and that entries should be made at

Warranted to Give Satisfaction.

Gombault's Caustic Balsam



Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a Humen Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

The Lawrence-Williams Co., Cleveland, O.

Diseases of Animals

459 PAGES.

Made for the practical stockman and farmer. Comprehends all the common diseases of live stock and outlines simple, effective methods of treatment.

PRICE, \$1.50 POSTPAID.

The Live Stock and Dairy Journal
SACRAMENTO, CAL.

once. If you do not have an entry blank, write to Chief D. O. Lively, Department of Live Stock, Exposition Building, San Francisco, for a copy of the rules and regulations with an entry blank.

KEEP BEES

The clovers, alfalfa, peas and beans are plants which produce but little seed unless the blooms are visited by insects. Among the most useful of these are the honey bees. A producer of alfalfa seed is benefited by having a number of colonies within a mile of the field, and no field growing alfalfa for seed should be more than two miles from an apiary. Bees are an important agent in the production of fruit, and as colonies are not as populous at the time of fruit bloom as they are later in the season, there is a decided advantage in having colonies in or near the orchard.

Bees will stand some neglect and still thrive, yet systematic care will prevent heavy losses by dwindling when a colony becomes queenless, by the ravages of foul brood and the work of moths. Carelessly handled colonies and combs are a menace to well-kept apiaries in the immediate neighborhood because they serve as breeders of moths and spreaders of foul brood.

Combs can be cleared of the moth, in all of its different stages of growth, by stacking up hives and supers nearly air-tight and setting a saucer of carbon bisulphide in an empty super on the top of the stack and then closing tightly. The destruction of the moth is more thorough if the stack is left undisturbed for several days. Fire must be guarded against, for carbon bisulphide is an explosive.

Foul brood is a bacterial disease, and can be eradicated only by means of fire or transferring to a new hive. Badly infected colonies are usually burned and the less infected ones transferred to a hive containing foundation only, where they use up the infected honey in the production of comb. After three or four days they are transferred to another hive with new combs. All infested combs and frames are burned as soon as the bees are removed, and the hives are burned out or disinfected. All tools that come in contact with the infected combs are sterilized in a flame, by baking in an oven or by the use of a strong disinfectant, like carbolic acid.

W. R. WRIGHT,

Assistant Bacteriologist Idaho Experiment Station.

Look into the sheep business, Mr. Alfalfa Grower. There are attractive profits in feeding alfalfa to sheep when they are handled properly. Those alfalfa stacks would be more easily converted into good yellow gold if they were in the form of fat lambs and sacks of wool.

Silage as a Sheep Feed

Continued from page four

found silage beneficial as a part of the ration for both pregnant and suckling ewes. He was able to feed as much as 4.78 pounds per head per day with mixed grain and clover hay without injurious results. The birth weight of the lambs from ewes receiving silage was slightly greater than the birth weight of those from ewes receiving no silage, and the ewes receiving silage made more gain during the period of pregnancy, so that they were probably in better condition to start the suckling period than the ewes which received no silage.

Evvard of the Iowa Station was able to carry ewes through the period of pregnancy on shelled corn and silage alone. The lambs from ewes maintained in this manner were about as strong and thrifty as those from ewes which received shelled corn and alfalfa hay, but Evvard has concluded that as a rule such a ration is not advisable. However, he does believe that silage has a useful place in the ration of both pregnant and suckling ewes. I understand that the authorities of the Missouri Station are of the same opinion.

In his book on sheep management, Klienbeinz of Wisconsin advocates feeding about two pounds of silage per head per day to pregnant ewes and increasing the amount after the lambs are born. For several years we have fed it to both pregnant and suckling ewes at the Illinois Station and in the main we have fed it with success. We have just finished carrying western ewes weighing about 100 pounds through a period of two months on approximately one pound of silage and two pounds of clover hay per head per day. These ewes are thrifty and their lambs are fairly large and vigorous.

"Although there have been numerous instances of injuries and losses, where silage formed all or a part of the ration, we have not yet definitely determined what was present in the silage to cause the trouble, nor have we,

in most cases, encountered the trouble in such a way as to permit us to declare, without any room for controversy, that it was caused by silage. Persons feeding silage for the first time are likely to charge their "bad luck" to it, but we should remember that sheep and lambs sometimes get sick and die when receiving rations which contain no silage. Therefore, let us not be too hasty in declaring that silage is the cause of our trouble.

"However, one should not be reckless in the use of silage or of any other feed for that matter. We all know that a 'half wit' can kill sheep with corn or any other grain, and we all know, too, that mouldy, rotten hay is not good sheep feed. Knowing these things, we should not be rational in our use of silage so long as we persist in gorging our sheep with it, or in feeding that which is mouldy, frozen or extremely sour. Good, reliable men feel that the abnormal use of silage and the use of abnormal silage have caused trouble. We can respect this feeling most by using good silage in a common sense sort of way.

"We are rapidly approaching a time

when nearly every farmer in the corn belt who handles live stock will have a silo. He who owns a silo will want to feed silage to his sheep. We who believe in the sheep should stand for silage as a sheep feed when it is properly made and rationally used. Both practical and experimental experience permit of such a stand. Merely to carp against it as an unfit food is to lend influence toward still further reducing the number of sheep in the corn belt because the corn belt farmers will insist on keeping animals that are able to handle silage."

Selected Second-Hand

PIPE

Every lot guaranteed. Save one-quarter on your pipe by ordering from us. Write for prices.

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FARM IMPLEMENTS AND SUPPLIES

SECOND-HAND PIPE.

Very best quality of selected Second-Hand Water Pipe and Standard Screw Casing. For quality and low price you make no mistake when buying water pipe of the Weisbaum kind. Largest pipe works in the West.

WEISSBAUM PIPE WORKS,
162 ELEVENTH ST., SAN FRANCISCO.

POULTRY.

EGGS FOR HATCHING—PUREBRED Stock. Buff Orpington, and Buff Cochins Bantam, \$2.00 per 15; Toulouse Goos, 25c each; Pekin Duck, \$1.50 per 12; Pearl Guinea, and China Pheasant, \$1.50 per 15. L. R. McCoy, R1, Box 205, Stockton, Cal.

FOR SALE—Pure Silver Laced Wyandottes, Buff Leghorns, Barred Rocks. Eggs. Mary Carlson, Camino, El Dorado Co., California.

BUFF MINORCA hatching eggs, \$2.00 and \$3.00 per 15; \$10.00 and \$15.00 per 100. Barred and White Rocks, Andalusians, R. 1. Reds, eggs \$1.50 per 15, \$5.00 per 100. Runner Duck eggs \$1.25 per 15, \$4.50 per 100. Buff Minorca cocks and cockerels for sale. Also have left two trios. Get orders in soon. Visitors welcome. Cedarhurst Ranches, R. 2, Sacramento, Cal.

BABY CHIX AND EGGS—From grand laying strain of S. C. Rhode Island Reds. INWOOD POULTRY FARM, Box 192, Folsom, Cal.

S. C. RHODE ISLAND REDS exclusively. Stock and eggs for sale in season. H. E. HILL, R. 8, Hanford, Cal.

PRIZE HOUDANS—Catalogue now ready. MRS. EMMA F. REID, R. F. D. 4, Box 54, San Jose, Cal. Life member American Poultry Association.

BARRED PLYMOUTH ROCKS—Winners at Fresno, December 4-7, 1913, first and third prize; first, second, third and fourth pullets; third and fifth cockerels. Stock for sale, also eggs from above winning females. W. L. KENNEDY, Box 20B, Fowler, Cal.

INCUBATOR CHICKS—White, Buff and Brown Leghorn, Black Minorca, White Rock. All high-class stock. Send for booklet. H. S. KIRK, P. O. Box 597, Sacramento, Cal.

R. I. REDS exclusively. Eggs \$5 per 100; Chicks \$15 per 100. Cash with order or stamp for reply. L. W. Nelson, R2, Box 1, Petaluma, Cal.

LIVE STOCK.

CHOICE young Jersey Bulls and Bull Calves. Some good cows. N. H. LOCKE CO., Lockeford, Cal.

PUREBRED REGISTERED PERCHERONS and BELGIANS—A few choice young stallions from 2 to 5 years old. Also 2 and 3-year-old Percheron fillies for sale. LOS ALTOS STOCK FARM, Los Altos, Cal.

HOLSTEIN BULLS—Pure bred young Holstein bulls for sale on Thompson Ranch, near Napa. For prices and particulars, address J. B. Agee, Napa, Cal.

LeghornsND White Rocks



I have some choice stock for sale. White, Brown and Buff Leghorn year old hens and cocks, good breeders, at reasonable prices. I can furnish birds for exhibition also.

White Rocks, Fischel Strain, good birds for sale reasonable.

JAMES O. YATES,
Expert Poultry Judge, Modesto, Cal.

Incubator Chicks

White, Buff and Brown Leghorn, Black Minorca, White Rock. All high-class stock. Send for Booklet of prices.

H. S. KIRK

P. O. BOX 597, SACRAMENTO, CAL.

DR. WHEELER'S SPECIFIC No. 1

Is THE REMEDY for contagious diseases of poultry, such as roup, catarrh and chicken-pox. Thousands of good breeders state so. I have letters to prove this, besides my many hundreds of treatments with flocks of customers. Prices, \$1.05 and \$2.10 by mail.

THE REMEDY "PREVENTION"

Is just the finest for all troubles of chicks up to two months of age, especially white diarrhoea. Prices, 50c and \$1; not stamps.

PICK OUT YOUR DRONES OF HENS

That do not lay good, by the book, "The Call of the Hen." The system is plain, simple and fine. Now sold at reduced price of \$1.50, or a year's subscription to The Live Stock and Dairy Journal and this book for \$2.00. Send orders to

J. E. HOLT

LOS ANGELES, CAL.

R. 4, BOX 281

Mention the Live Stock and Dairy Journal When Writing to Advertisers.

DAIRY AND STOCK FARMS.

160 ACRES GOOD LAND—Free water to irrigate. Good home market. New buildings, on main road, near small town. Price, \$1800; half cash. For particulars address H. H. care The Live Stock and Dairy Journal, Sacramento, Cal.

Victoria, Australia, Wants Settlers

Special inducements; government land, railways; free schools; cheap irrigation; 31 years to pay for farms adapted to alfalfa, corn, grains, fruit, etc.; climate like California; ample markets; reduced passages; special excursion next November. Free particulars from F. T. A. FRICKE, Government Representative from Victoria, 687 Market St., San Francisco, Cal., Box V.

83 ACRES, out of which 65 are planted in alfalfa, irrigated; no improvements.

153 Acres, out of which 60 are planted in alfalfa, irrigated; no improvements.

55 Acres, all in alfalfa, irrigated. These lands are situated in the famous Oakley Homestead Tract, two miles from Wheatland, Yuba County. Soil is mostly rich bottom land. Prices range from \$150 to \$165 per acre.

A number of large stock and dairy ranches on hand in Yuba and Sutter Counties. Alfalfa land in 10, 20 and 40 acres and up.

In addition we are sole owners of Hallwood Irrigated Farms, with the best system in the country. Unsold land in this tract especially adapted for rice, which has proven to be a splendid success.

No matter what you want we can please you. State your desires and we will take pleasure in giving you thorough description.

Remember, no trouble for us to answer questions. Write today.

GOLDEN LAND & INVESTMENT CO.

Maravilla, California

FARMS WANTED.

WANTED—To hear from owner of good farm for sale. Send description and cash price. D. F. BUSH, Minneapolis, Minn.

WANTED—To hear from owner of good poultry farm for sale. State lowest cash price. Western Sales Agency, Minneapolis, Minn.

MISCELLANEOUS.

USE EGGSEAL—Preserves eggs without cold storage. Conform with Department of Agriculture. Correspondence solicited. Agents wanted. EGGSEAL DEVICE CO., 811 Marvin Bldg., San Francisco.

HARES.

THOROUGHbred BELGIANS, with or without pedigree. THE OLD HICKORY S'PLY CO., Dept. 11, San Francisco and Los Angeles.

POSITIONS WANTED.

A YOUNG MARRIED MAN of good character would like to farm small ranch for salary or shares. Am reliable, industrious and thoroughly experienced in California farming. References furnished if desired. H. SHELLEY, Valley R. F. D., Helena, Montana.

Want steady work on farm. Good milker. Experienced in butter making, certified dairymilk. Strictly temperate, clean, reliable American; married. Wages reasonable. L. DAVIS, Gen. Del., Oakland.

15 JACKS

DISPERSAL SALE

17 Jennets

Purebred Farm Registered Jacks and Jennets

**STATE
FAIR
Grounds
Sacramento**



BABY GIANT (3933).

**Wednesday
September
16th
10:00 a. m.**

We have been instructed by Mr. W. J. Greer to sell his entire herd of Registered Missouri Jacks and Jennets to the highest bidder on the above mentioned date. In this offering is the great Missouri Jack, Baby Giant (3933), 16 $\frac{3}{4}$ hands, 1242 pounds, one of the best and largest Missouri Jacks ever brought to the coast, and a number of his sons, ranging in age from colts to 2-year-olds. The Jennets offered were all selected by Mr. Greer personally, and include some of the best he could find in Missouri. They are all in foal to Baby Giant, all have colts in this sale and some have colts at side. A number of prize winners at last year's State Fair are in this offering.

We wish to especially emphasize the fact that Mr. Greer is retiring from business, that the ranch is being converted into a dairy farm, and that every animal offered is to be sold to the highest bidder regardless of price.

This is without doubt the best lot of Jacks and Jennets ever offered at auction in California.

REMEMBER, every animal is Registered; every animal is guaranteed to be as represented and every animal must be SOLD. for further information apply to W. J. GREER, EDENVALE, CAL.

RHOADES & RHOADES, Auctioneers, Los Angeles, Cal.

54—HOLSTEINS—54

My purebred Berkshire hog business has reached such a volume, and makes so many demands upon my time that I am offering my entire herd of Choice, High-Grade Holstein Cows for Sale.

These cows are the result of fifteen years of careful breeding up with registered purebred sires, and the cows are practically all young, with their most productive years before them.

44 head in milk; 5 heifers with first calf are now averaging 35 pounds of milk daily; 15 head are heifers with second calf or about to drop second calf. Balance are up to 7 years old except two older cows.

**Herd free from
Tuberculosis
and sold
subject to test**

These cows are typey and well marked, and 44 head are bred to Creamcup Korndyke Cornucopia, junior champion bull at 1913 California State Fair. Herd free from tuberculosis and sold subject to test. This herd is priced to sell as a whole. Come and see these cows milked. We begin at 2:30 p. m.

I also offer my 2 $\frac{1}{2}$ year old registered Holstein-Friesian herd bull.

**This Herd is
Priced
to
sell as a whole**

Oak Grove Dairy Farm

H. G. ARMSTRONG, Owner

Woodland, California

THE LIVE STOCK *and DAIRY JOURNAL*

FOR BREEDER, STOCKMAN, DAIRYMAN, POULTRYMAN and FARMER

Thirteenth Year

SEPTEMBER 1914



THREE HERD BOARS IN OAK GROVE
HERD OF REGISTERED BERKSHIRES
WOODLAND, CALIFORNIA



TOP: Brinton's Longfellow 166579

CENTER: Iowa Majesty 179272

BOTTOM: Artful Masterpiece 110970



AGRICULTURAL PUBLISHING COMPANY, SACRAMENTO, CAL.

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Volume XIII No. 6

VISIT YOUR FAIR.

There is probably no way in which the farmer can more conveniently and economically keep himself abreast of improvements in farming methods than by visiting the various fairs now in progress. It is there that he will see the highest types of farm animals, the best fruits and vegetables, the most approved machinery and equipment, and there is no fair, no matter how small, in this progressive day that does not exhibit something that is an improvement over a year ago. Agricultural conditions change as newer and better methods are accepted in place of the old. Farming is such a complicated business that the farmer is brought into contact with more problems and influences than almost any man engaged in any other business, and for that reason he is affected more by the various improvements and changes which are made in methods and equipment. The exhibits at our State fairs particularly are gathered from the best there is in all sections of the State. To go and see these things in their own respective localities would entail a great deal of expenditure of time and money. At the state fair everything is classified and placed on display in such a manner that the visitor may gain the most knowledge about the exhibit in the shortest possible time. By all means visit the State Fair, if possible, but in any event visit your nearest fair.

PUREBRED STOCK SCARCE IN CALIFORNIA.

Practically every well-known breeder of registered, purebred stock in California has little or no surplus on hand for sale. This is a very healthy indication, but we regret that the capacity of our breeding herds has been overtaxed to such an extent that many willing buyers have not been able to secure the stock they want. This is particularly true of purebred swine demand. There have been some very large orders going unfilled for some time now, and the demand for fall pigs is already large. One prominent breeder has already been induced to accept payment for pigs

that are yet unborn, and in all of the leading herds the youngsters are snapped up barely past weaning time.

There is a demand for very high-class dairy bulls that cannot at this time be filled by our breeders. There are quite a number of buyers out right now for bulls to meet their specifications, willing to pay up to \$2,000 to secure the right bull, even if it is a calf. This should be heeded by every breeder who is not doing official test work. The Journal has repeatedly expressed the belief that there exists a market on this coast for the very highest class of dairy bulls, and that belief is strengthened as the days go by. It requires the strongest kind of official production close up to secure top prices, and even our breeders of purebreds have something to learn yet as to why one bull is actually worth \$2,000 and another that LOOKS equally good is not worth over \$200.

FALL SILO BUILDING TIME IS HERE.

Right now a great many silos are going up on the Pacific Coast, in many instances on the rush plan. The fact that the silo is unquestionably one of the most important features of any stock farm is gaining widespread recognition on the coast, and our farm animal industry is advancing accordingly. We can not too strongly caution our readers against leaning too strongly toward low initial cost in constructing the silo. Quality should be the first consideration, and quality in a silo can quite fully be expressed in two words—permanence—airproofness. Permanence is assured by the quality of material used, whether it be wood or concrete. If the silo is of wood construction it should be of a wood that is established as a strong resistant of decay. If the silo is of concrete it should be made of the proper mixture, and THOROUGHLY waterproofed.

The airproof quality of a silo is determined by the quality of material used, and by the peculiar properties of different materials to withstand variations in moisture and climate. The method of construction enters very largely here, and any plan of construction which offers opportunity to splitting or opening of side walls is to be avoided. While the re-saw silo is quite the most inexpensive as to initial cost, careful observation of a large number of these silos leads us to conclude that it is better to erect a stave silo of correct construction in spite of the increased cost, which is not a large item. We have had only a limited opportunity to observe the home-made stave silo on the coast, but such as we have seen are not satisfactory, the chief faults appearing to be an incorrect fitting of the staves and faulty door construction, both of which permit the admission of air and consequent spoilage of ensilage. Our experience up to date indicates that the stave silo is going to be the type most generally used, and that the concrete silo thoroughly waterproofed is going to find much favor with the man who does not have to figure closely on initial expense.

KEEP UP THE GOOD WORK.

California Agricultural College has all the earmarks of having "arrived." Not that it has by a long way reached the zenith of its usefulness, but it has arrived at a point where it is doing large and effective work along most practical lines for the advancement of the agriculture of the State. It is forming contacts with every phase of farm life in the State, and the great good which it is accomplishing can hardly be understood except by those whose activities take them constantly into the farming sections of the State.

NEW ACQUAINTANCES.

From among the many new acquaintances which this issue of the Journal will make we hope to make a good number of permanent friends. Each year as the September issue has gone to press we have had occasion to feel gratified because public appreciation of our efforts is expressed in terms of increased subscription lists and advertising patronage.

During its thirteen years of life the Journal has seen some wonderful changes take place in animal husbandry on the Pacific Coast, and we have ample evidence that in bringing about vastly improved conditions the Journal has played a very useful part. It remained steadfast to the cause of BETTER STOCK during many years when there was little financial support to urge it on. Of late years its efforts have been rewarded by a steadily increasing patronage, both from subscribers and advertisers, until this issue of September, 1914, surpasses by quite a wide margin all previous records for paid subscribers, number of copies printed and amount of advertising carried. The policy of admitting to its columns only clean, dependable matter, and to its advertising columns only clean, dependable copy from reputable and responsible advertisers, has won for the Journal a public confidence that is its most treasured asset.

WAR AFFECTS DRAFT HORSE IMPORTATIONS.

No man can at this time foresee the effect which the war in Europe will have upon draft horse breeding throughout the world. Belgium, France and England, which furnish the bulk of draft stallions to the rest of the world, are now bottled up tight as far as getting a stallion out of them is concerned, and just how far the war will tear down their breeding establishments or cause their governments to forbid the exportation of stallions is impossible to estimate at this time. In America there are very few breeders of purebred draft horses who have established the quality of their American bred stock upon a price equality with imported horses. It is safe to say that such establishments are going to be taxed away beyond their breeding capacity this season, by the demand for stallions, and the necessities of the present situation should lead American breeders up to a higher standard of purebred draft stallion production.

GOOD BEEF CATTLE SHOW.

There will be a most excellent lot of animals of the beef breeds exhibited at California State Fair this year, the Shorthorn show being especially promising. The breeders who will show can not hope to realize any immediate benefits as far as advertising value of the fair is concerned, for none of them have enough bulls on hand to supply the season demand. The increased demand for purebred beef bulls is one of the most gratifying features of recent developments in the beef raising industry. It has taken the average California stockman a long time to recognize the superior merit of the purebred herd header, but during the past three years this recognition has come about with a rush. The result has been an increasing scarcity of good bulls each year, in proportion to demand, because of the general unpreparedness of breeders for the rapid change in sentiment.

A WISE MOVE.

During the past few years the price of alfalfa hay has been maintained at so high a level that many land owners found the sale of hay more remunerative than the feeding of animals. At least that was the general impression, and it so happened that a very great percentage of alfalfa growers were not experienced in animal husbandry, having been attracted to alfalfa growing through the very satisfactory profits which men already in the business were securing. Dry seasons which compelled the forced sale of large numbers of animals, and a rapidly increasing acreage of alfalfa finally brought production up to and above the consuming capacity of our herds, and a large and rapid decline in the price of alfalfa hay was the result. Meat, wool and butterfat prices have been maintained fairly well, and the man who has large tonnages of alfalfa on hand is now turning his attention to animals as a market. There is one advantage to animal husbandry in having a large number of inexperienced men turning toward it, and that is that they approach the subject with an open mind and all branches of the industry are receiving thoughtful attention. While the bulk of attention is being given to dairy cattle and swine, yet there is very strong interest in the possibilities of sheep raising on alfalfa lands, and it seems as though we are going to have some interesting and profitable developments along these lines. The old order of farming in California is rapidly passing. Our agricultural college is turning out as graduates many young men of high intelligence and ideals, who are taking up farming for themselves in nearly every section of the State. On the whole, their influence is good in their respective communities, and the inexperienced neighbors who are taking up some form of animal husbandry can gain much from the methods and experience of these trained young men.

KEEP AFTER THE 8-HOUR LAW.

There is little fear that many farmers will vote in favor of the universal 8-hour law which comes up this fall, but there is some uncertainty as to how many will vote AGAINST it. It is of vital importance to our whole farming industry that every man and woman on California farms who has the power of a vote should get out on election day and VOTE AGAINST this proposed law. It is doubtful even if union labor will vote in favor of this law in the cities, from present indications, but if enacted the 8-hour law would be so detrimental to our whole agricultural and commercial life that it is the duty of every citizen to vote, and vote AGAINST it.

FEED GENEROUSLY.

From now on during the next few months there will be a particularly large transfer of registered animals, particularly males. Many of these will be bought by men who have never before owned a purebred sire, and from our observations in the past a word on feeding the new sire is timely. It should be borne in mind that a registration certificate does not render a hog, or a bull, or a stallion immune from hunger. The sire is half the herd, and when he is improperly nourished there is exactly half the herd being ill fed. Give the new sire plenty of good feed, clean quarters, and opportunity to exercise, and you will not be disappointed in the development of your animals.

THE HORSE

Size in Draft Horses

Why it is Important and What it is Worth

Is there anything useful to mankind that will not grow in California? If there is, it is of so little importance economically that it has not attracted much attention. Yet horse buyers for large firms are riding up and down the State looking in vain for big, smooth, sound, good quality draft horses. Tired out from traveling and the demand still unfilled they take the only alternative, that is, order them from an eastern market. Why are they not to be found?

First, some breeders thinking that the motor truck would displace the big fellows, decided to devote their energies along other lines.

Second, far too many breeders have not realized why size is important in draft horses nor have they discovered what it is worth when they get it.

Third, due to improper foundation stock or improper feeding or both, breeders have not secured the size that they expected to get.

The price for good, big horses has not dropped and with all Europe at war is liable to advance materially. No one claims that the price for heavy horses is too low, but still they do not produce them.

An understanding of the purpose of a draft horse will probably help to make clear the importance of size. The duty of a drafter is to furnish power to move the heaviest of loads, oftentimes over paved, traffic-congested streets. His efficiency for this work is in direct proportion to his weight. This weight may be anywhere from 1,500 pounds to 2,400 pounds, but the greater it is, the more secure is the footing because the friction between the horse's shoe and the pavement increases greatly with the weight. Also, the greater the weight thrown into the collar, the greater is the muscular exertion possible.

Of course, not all big horses are good horses, nor are they necessarily as good as smaller horses for some kinds of work, but for straight, heavy hauling, other things being equal, the heavier the horse the more valuable he is. A summary of the prices paid at our largest markets prove very conclusively that users of draft horses know this.

The latest available summary shows that 1,600 pound horses have been averaging \$203 per head. At the same

time 1,700 pound horses have averaged \$233, 1,800 pound horses \$276, 1,900 pound horses \$311, and 2,000 pound horses \$426. This would indicate that the buyer is willing to pay from 30c to 50c per pound for each and every pound that a horse weighs over 1,600 pounds and up to 1,800. From there up to a ton he will pay 65c to 80c for each and every pound.

If beef can be profitably produced for from 9c to 10c per pound, why not draft horses at the above prices? But how to get this size seems to be the difficulty.

It is absolutely necessary to have foundation stock that has the required size or whose immediate ancestors had the necessary weight. After that (and right here seems to be the trouble in this State) it is a matter of proper feeding. Ton horses are just as unnatural creatures as are dairy cows that produce 25,000 pounds of milk or 1,000 pounds of butter fat in a year. In France where the Percheron as we know him has been evolved from the 1,500-pound Diligence or Coach horse to the drafter of a ton or more within the past thirty years, heavy feeding is the rule. The pastures of LaPerche are the finest known, yet grain is fed in abundance all of the time. Breeders of Belgians, who produce many of the heaviest horses known, feed, in addition to good pasture, twelve pounds of oats and bran daily to yearlings and about sixteen pounds to two year olds.

Brood mare suckling colts are fed heavily, even on pasture, and the colts are fed continuously after they learn to eat, which is at about two months of age. Such heavy feeding might not seem economical, but the mares are worked for nine months of the year.

Our system seems to be to put in as little as possible and get back a little. They prefer to put in a lot and get back more, and they do it. There are quite a number of good, big, quality stallions brought into this State, but the mares with which they are mated are often inferior. The colts thus produced are allowed to range from the time they are weaned until maturity. The result is that there are plenty of common work horses available, but only a few big massive drafters, the kind that bring the top price because the buyers want them. Not all big horses are good horses, but it is just as possible to produce a good big horse as it is to produce a good little horse and the profits seem to be in proportion to the weight.

J. I. THOMPSON.

Registered Jacks



Twelve head from 2 to 6 years old. Native Sons, hardy as Billy Goats and about as active.

Extra heavy bone and right every way. Fully tested as breeders and sold under an absolute guarantee.

Will trade for Young Mules, Horses, or Land.

Come and see the stock.

Phone M. 471-J.

Res. 508 N. Douty Street.

J. W. McCord

HANFORD

CALIFORNIA

A. C. RUBY, Portland, Ore.

C. W. BOWERS, Davis, Cal.

RUBY & BOWERS

THE LARGEST HORSE IMPORTERS ON THE PACIFIC COAST.
STABLES AT PORTLAND, ORE.; DAVIS, CAL.; ALBUQUERQUE, N. M.;
AND PHOENIX, ARIZONA.



Percheron, Belgian, English Shire, Clydesdale, Hackney, Coach, and Saddle stallions and mares.

We have on hand at our four stables some choice stallions, and at our Davis stable we also have a number of extra good Percheron and Clydesdale mares.

We can sell you more genuine horse for the money than any other importer in the business, and we give a four-year guarantee that is good right here at home.

We have also sold a very large number of American-bred draft stallions and mares during the past two seasons, and have been highly successful in satisfying our clients. The Pacific Coast can produce just as good draft horses as can be produced anywhere in the world, and we have sold some of the best. If you are in the market for a high-class stallion or mare, do not fail to see our stock before buying.

RUBY & BOWERS, DAVIS, CALIFORNIA

References: American National Bank, Pendleton, Ore.; Merchants' National Bank, Portland, Ore.; First State Savings Bank, Marcellus, Mich.; Bank of Yolo, Davis, Cal.; G. W. Jones' Bank, Marcellus, Mich.

WE WANT TO BUY 50 AMERICAN-BRED REGISTERED DRAFT STALLIONS.
WRITE US WHAT YOU HAVE.

FOR SALE

My Entire Herd of Prize Winning

Pedigreed Shetland Ponies

See them at California State Fair.

Maurice Rucker, Fair Oaks, Cal.

Ranch 13

ASK YOUR HORSE!

about Mica Axle Grease. If he could talk he would tell you that it makes the load pull a lot easier.

MICA AXLE GREASE

would be a *good* axle grease even though it contained no mica. But the ground mica makes it still better. It fills up the microscopic pores or crevices on the surface of spindles and resists friction and heat. It will pay you to use Mica Axle Grease. Dealers Everywhere.

Standard Oil Company
(CALIFORNIA)

MICA AXLE GREASE

AN IMPORTANT COMBINATION OF PERCHERON COMPANIES.

The most important announcement that has been made in Pacific Coast draft horse circles in a long time, is that of the joining of Oaklawn Stock Farm, Wayne, Ill., more popularly known as Dunhams, and William McLaughlin, of McLaughlin Percheron Company, Oakland, Cal., under the name of Dunham-McLaughlin Company, with Pacific Coast headquarters at 1076 Forty-seventh street, Oakland, Cal. The June issue of the Journal contained a most excellent article on Oaklawn Stock Farm from the capable pen of H. T. Morgan and our readers are therefore somewhat informed as to the high standing of Oaklawn in the Percheron history of America. This business combination

is regarded as being of great importance in Eastern horse circles, and the Breeders' Gazette, Chicago, had the following to say regarding it:

Widespread interest will be awakened by the announcement of the union of forces between Oaklawn Farm, Wayne, Ill., and William McLaughlin, who prior to 1909 managed the Kansas City branch of the extensive stallion importing business maintained by McLaughlin Bros., Columbus, O. By this new partnership William McLaughlin, who for a little while has been located at Oakland, Cal., in the horse business, will have in charge the extensive coast trade which he himself has been building up and which the Dunhams have been following with salesmen for some years. Headquarters of the western operations of the new company will be maintained at Oakland. Before entering into this business connection Mr. McLaughlin had ordered an importation of Percheron stallions, and they recently reached Oakland safely in charge of George Potts, that pastmaster in all that pertains to buying, selling, conditioning and showing draft stallions, who will devote his best efforts to the prosecution of the business of the Dunham-McLaughlin Co. This new importation has been turned into the partnership deal, and the extensive stables at Wayne will supply stallions in any number and of prime quality for this Western trade. A number of high-class show horses will presently be shipped to Oakland and be put in training for the California State Fair and other coast shows. This combination of forces is one of the most important developments of the stallion trade. Oaklawn bears traditional fame, and its glories have not been permitted to dim under the management of the younger Dunham. William McLaughlin has proved himself one of the livest wires in the trade. His thorough knowledge of western



A high-quality Shetland Pony Herd, owned by Maurice Rucker, Fair Oaks, Cal. These will be seen at California State Fair.

and coast conditions, his long successful connection with the stallion trade, his outstanding qualities as a salesman and his enterprise and industry qualify him in high degree for the business relationship into which he has just entered with the Dunhams.

A CHANCE FOR THE LITTLE FOLKS TO HAVE A SHETLAND.

In this issue Maurice Rucker, of Fair Oaks, is offering his entire herd of Shetland ponies for sale. This herd carried off the bulk of the ribbons at California State Fair last year and is entered again this year. There are some choice ponies in the herd and they will make some youngsters glad.

Mr. Rucker is going to give over the entire acreage of "Ranch 13," his Fair Oaks place, to the raising of registered Duroc-Jersey hogs, of which he already has an excellent herd.

C. W. BOWERS RETURNS FROM EXTENDED TRIP.

C. W. Bowers, of Ruby & Bowers, horse importers, has returned to Davis, Cal., after an extended trip through Arizona, New Mexico, Texas and Mexico. While in the Southwest Mr. Bowers established a branch stable at Albuquerque, New Mexico, and another at Phoenix, Arizona.

He also purchased another ranch in Arizona, making three that Ruby & Bowers now own in that state.

The European war had its effect on Ruby & Bowers in that it stopped the movement of 50 head of horses that they had bought and were about to bring over. They have quite a supply on hand at their various stables, and will, no doubt, sell many American-bred horses this season, as they have built up a very successful business on this class of horses.

TIME OPPORTUNE FOR GREER'S SALE.

Everything goes to indicate a very profitable mule market on this coast for an indefinitely long time. Mules are bringing profitable prices now, and there are indications that the demand is going to increase. According to newspaper dispatches Canada has been drawn upon heavily by England for mules, there being one order for 30,000 head of mules and horses sent over recently. While the effect of this condition is not yet felt to any great extent in this country, outside influences are bound to stiffen prices in this country, and California is a mule-breeding State of considerable importance.

The selling of a large herd of jacks and jennets, such as will be offered by W. J. Greer, on the State Fair grounds at Sacramento, during fair week, is a particularly timely event and it is already assured that bidders from a great many points far and near will be present to secure some of this excellent stock.

GREAT SADDLE HORSE COMING TO COAST.

The growing circle of Pacific Coast lovers of saddle horses will be interested to know that one of the greatest horse of the Blue Grass country is coming to California. The Journal is advised that Mr. H. B. Thornberry of Stockton, and Los Angeles, has purchased the undefeated saddle horse, Jack Berrimore, from Shropshire & Matlick, Winchester, Kentucky. The price was \$5,000. Mr. Thornberry expects to have Jack Berrimore in California some time in September, but probably not in time for the State Fair.

15 JACKS DISPERSAL SALE 17 Jennets

Purebred Farm Registered Jacks and Jennets

**STATE
FAIR
GROUNDS
SACRAMENTO**



BABY GIANT (3933)

**WEDNESDAY
September
16th
at 10 a. m.**

We have been instructed by Mr. W. J. Greer to sell his entire herd of Registered Missouri Jacks and Jennets to the highest bidder on the above mentioned date. In this offering is the great Missouri Jack, Baby Giant (3933), 16½ hands, 1242 pounds, one of the best and largest Missouri Jacks ever brought to the coast, and a number of his sons, ranging in age from colts to 2-year-olds. The Jennets offered were all selected by Mr. Greer personally, and include some of the best he could find in Missouri. They are all in foal to Baby Giant, all have colts in this sale and some have colts at side. A number of prize winners at last year's State Fair are in this offering.

We wish to especially emphasize the fact that Mr. Greer is retiring from business, that the ranch is being converted into a dairy farm and that every animal offered is to be sold to the highest bidder regardless of price.

This is without doubt the best lot of Jacks and Jennets ever offered at auction in California.

REMEMBER, every animal is Registered; every animal is guaranteed to be as represented and every animal must be SOLD.

For further information apply to W. J. GREER, EDENVALE, CAL.

RHOADES & RHOADES, Auctioneers, LOS ANGELES, CAL.

DUNHAM-McLAUGHLIN COMPANY

OAKLAWN FARM,
Wayne, Illinois.
Established 1866
by M. W. Dunham.

PERCHERON HORSES

WM. McLAUGHLIN,
Oakland, Calif.,
with McLaughlin Bros
from 1895 to 1908.

**America's Leading Horse Importers
AND
Greatest Breeding Establishment in the World**

TWO
Large Importations
direct from
France arrived on
June 15, 1914
and
July 7, 1914

**THE BEST
THAT
FRANCE
PRODUCES**



THE
Choice Selection
of our recent importations
can now be seen at
**OAKLAND
STABLES**
and will also be on
exhibition at
**CALIFORNIA
STATE FAIR
SACRAMENTO**
September
12-19

LUCON
IMPORTED PERCHERON STALLION.
3 years old, weight 2010 pounds.

The Unprecedented Success of our business is due to the extraordinary quality of our stock; careful, conservative business management and the perfect fulfillment of our obligations.

DUNHAM-McLAUGHLIN COMPANY
WESTERN STABLES: OAKLAND, CALIFORNIA

THE SWINE HERD

Suggestions for the Control of Hog Cholera

By DR. S. H. WARD, U. S. Live Stock Sanitary Association.

The extreme prevalence of hog cholera last year and the great losses sustained are still vividly impressed upon the minds of farmers and breeders, and considerable thought is undoubtedly being given as to the best way and means of preventing a like occurrence this year.

It must be borne in mind the disease is of germ origin, and is acquired by hogs through contamination of their food supply. This contamination may take place in a variety of ways, principally, however, by birds, dogs and man carrying the disease germs on small particles of dirt or manure gathered up from places where the disease has been or is present.

The majority of hog pens are in a filthy condition, as a result of the accumulation of litter and manure gathered through months and perhaps years. Many times food is scattered in the pens and becomes contaminated by all kinds of filth before being eaten by the hog, hence if cholera has existed the litter and manure has been saturated with the body discharges of sick animals, and is alive with germs.

To control the disease, owners of hogs must be educated to the importance of sanitary measures, and not be permitted to lapse into indifference because of the possible use of serum as a cure or preventive.

A steady war should be waged on pigeons and crows, which feed in infected pens and carry the disease all over the vicinity.

Dogs are frequent carriers of the disease, and should not be allowed to run at large, even on owner's premises, if cholera exists in the neighborhood.

Stock buyers, strangers, and neighbors visiting the premises should keep away from hog pens, and the individual owner should not let his curiosity lead him to tramp near or in hog pens belonging to his neighbor.

All outbreaks must be quarantined and only owner or his help allowed to go near the diseased animals. To curtail the losses, the single treatment should be given and the operator and helpers must take the precaution of using rubbers while working, removing and disinfecting them after completion of the vaccination.

Explicit directions should be given

by the veterinarian that pens are to be cleaned daily and disinfected with a solution of cresol, U. S. P., six ounces to a gallon of soft water.

Above all, dead hogs are to be buried or burned. Allowing dead hogs to remain unburied, the placing of dead hogs in low places, or dried up water courses should be made a misdemeanor. If no statute covers these matters, then sanitary authorities should adopt regulations which will effectively deal with them.

Wagons used in removing dead hogs, or in drawing away litter and manure from the pens, should under no circumstances be taken on to the public highway.

Thorough and complete disinfection of the pens and yards should be practiced daily, using the disinfectant of the strength already described. Where outbreaks occur, stock buyers should be warned against visiting the premises and should be advised of the great danger there is in carrying the infection from farm to farm, and to avoid it by using rubbers, to be removed and disinfected after visiting individual farms, no matter whether cholera exists on the premises or not.

Railroad stock yards are a prolific source of spread, and a regulation should be issued forbidding the removal of hogs from stock yards except for shipment by rail for immediate slaughter. Railroad yards and pens should be cleaned of all litter and manure and then disinfected after each shipment.

Persons delivering stock to these yards should be warned, by posted notices, to avoid going into "yards."

Prevention.

As the disease is without doubt taken up with the food supply, the question arises: How best protect it from infection?

It is suggested small feeding pens be built with closely woven wire fence to which hogs should be admitted only at feeding time. These pens should have a cement floor, which must be kept clean of all litter and manure and then sprinkled with the solution previously mentioned. Troughs should be disinfected and lifted off the floor and exposed to the sun.

Sleeping quarters should be arranged so they can be kept cleaned and disinfected. Good pasture away from water courses and roads are

Registered

Poland China Swine

PRIZE WINNERS

Finest Stock in the State from \$30 up.

I have for sale fine Young Boars sired by Gold Coin, Master Banker and Wonderful Victor. There is no better blood in the world.

M. BASSETT, Breeder

HANFORD, CALIFORNIA

Poland China Swine

I have for sale pigs of both sexes sired by my boar, Great Prospect (57949) out of sows sired by A. Wonder. For prices write or call

BROWNING STOCK FARM, WOODLAND, CALIFORNIA.

W. H. BROWNING, Prop.

DUROC JERSEYS Best Bred Stock Now in California

YOUNG STOCK AND SERVICE BOARS AND SOWS FOR SALE.

All Registered Purebreds, and from such sires as Wonder and Klondike. We are located in the Imperial Valley, and can supply breeding stock to all Pacific Coast Points. Write for prices and pedigrees to

MOORE BROS., El Centro, Imperial County, California.

Tamworths

The Celebrated Block and Bacon Hog. Especially adapted to California Climate. Boars, Sows and Young Stock for sale. Prices Right.

COTTLE & HOBSON COMPANY

AMSTERDAM, CAL.

Knob Hill Stock Farm
REGISTERED.

Poland Chinas

I offer young stock of both sexes out of prize-winning stock. Call and see my herd or write for prices.

A. M. Henry, Farmington, Cal.

GLENVIEW RANCH
LARGE TYPE, REGISTERED

POLAND CHINAS

Have a fine, vigorous lot of Baby Pigs of both sexes. Quality and price right. Order early as supply is limited.

CHAS. R. HANNA,
R. 3. Riverside, Cal.

DUROC JERSEYS

A few choice offerings for Fall Delivery. Prices right.

GLENOAK STOCK FARM,
Davis, Cal.

DUROCS Out of first prize winners State Fair. Boars ready for service. Choice gilts.

Pigs, either sex, \$15.
ED. E. JOHNSON, TURLOCK, CAL.

Duroc Swine Fine lot of young stock for sale. Boars ready for service. Bred gilts and young pigs, both sexes. The long type and the kind that wins. J. K. FRASER, Denair, Cal.



REGISTERED PUREBRED POLAND CHINA SWINE

Herd headed by Designer (160363), Grand Champion Boar Oregon State Fair, 1911. Seven champion crosses close up. My sows are EQUALLY as WELL BRED. HAVE NOT HAD CHOLERA IN MY HERD OF THIRTY YEARS. Choice Pigs for Sale. (Registry Free to Purchaser.)

S. F. WILLIAMS
CHICO, CALIFORNIA.

PURE GOLD STOCK FARM

Breeders of BERKSHIRE HOGS
HOLSTEIN-FRIESIAN CATTLE

Offers for sale a few Choice Boars of breeding age, and a number of Boar Pigs containing the blood of Masterpiece and Robinhood. Prices, \$25 to \$75.

Also one choice Yearling Bull of good breeding.

MARKOFER & LATTA, Elk Grove, Cal.

Poland Chinas I have an extra good selection of Pigs out of my good big type sows and sired by Iowa Wonder, son of A. Wonder, and Longfellow 3d, son of Longfellow Jr. Pigs and prices are right. Write me your needs.

N. HAUCK,
ALTON, HUMBOLDT CO., CAL.

DUROC BOARS

Young registered Duroc Jersey Boars from imported Iowa stock, for sale. Ready for service.

W. H. GINN & SON,
Corcoran, Cal.

MULEFOOT HOGS Let me send you some printed matter describing this great breed of hogs.

J. H. NORTON,
R. F. D. 1. MESA, ARIZONA.

BERKSHIRE SWINE SHORTHORN CATTLE

Choice Young Stock for Sale.

H. L. MURPHY, Perkins, Cal.

Hampshire Swine

The breed that has won over all others for several years in the dressed carcass contest at International Fat Stock Show.



My herd has been selected with great care, and is headed by EL SALVATOR, winner of two silver cups in the strongest competition in the Middle West.

I have a choice lot of young registered pigs of both sexes for sale. Also a number of choice boars ready for service. Write for prices.

Frank Reed Sanders

MESA, ARIZONA.
In the Salt River Valley.

WINONA BERKSHIRES

BIG FOUR
At 10 months, when he weighed
475 pounds.



Big Four

Riverbank Premier

Bacon Premier
100th

For sale weaned Berkshire pigs by these boars out of DUKE'S LADY VALUE 10TH, present Junior and Reserve Grand Champion of America. MISS L 2ND, Junior and Grand Champion, 1913, Oregon State Fair. PRINCESSES ROYAL S., Senior Champion of Oregon; and other sows of equally good breeding.

F. R. STEEL WINONA RANCH Grants Pass, Ore.

He was the Undefeated Junior Boar Pig of the 1913 National Show Circuit, including the Americal Royal. Closely line bred to MASTERPIECE, the most popular boar of all time.

Line bred to LORD PREMIER by H. N. Gentry, the man who bred that greatest sire of the breed.

A brother of the Grand Champion Boar of the 1913 American Royal and a grandson of PREMIER LONGFELLOW, Grand Champion Berkshire Boar of the world at St. Louis.

necessary, in order to prevent any infection being carried by stray animals, or from contaminated water.

As a further precaution, not only against hog cholera but against various parasites which swine are often troubled with, a dipping vat can be built with very little expense and a cheap disinfectant used.

The disease is not borne in the air, but is acquired by taking into the system the disease germs.

Protect your hogs from coming in contact with sick hogs and protect their food and water supply from contamination.

When the disease has existed, it is wise to provide new quarters entirely for the brood sows. While young pigs from immune mothers carry an immunity for a short time they are liable to infection later if permitted to remain in infected quarters. It is well to plow and seed the old yards.

DUROC-JERSEY POPULARITY AND SOME REASONS.

The question, "Is there money in hogs?" has frequently been answered so convincingly that there is no use to dwell on the subject. But which is the best profitmaker for the pork producer is still a question with many.

The ultimate aim of the Duroc-Jersey breeders is to perfect a hog that will produce pork at the greatest profit to the farmer.

That the "ultimate end of the hog is the pork barrel" is an expression used by many breeders, from which the conclusion is frequently drawn that the finished hog which dresses out the greatest per cent is the hog for the feeder to produce.

What is termed offal in the packing house is the engine of the hog in the feeding and breeding pen, and no hog should be underpowered for the work he is expected to do. What difference is 5 per cent more or less in the dressing out averages as compared with 20 to 30 per cent gain in the cost of production?

Any hog man knows that the small, compact hog will dress out a higher average than the larger, more rugged kind; but his progeny will deteriorate in size and get us away from the big, strong, stretchy sows which we must have to produce large litters and nourish them well.

Duroc-Jersey breeders have always kept in view in their breeding operations the five essentials to usefulness: Prolificacy, constitution, feeding quality and size.

The reward is evident in the prominent place the Duroc-Jersey has taken on the American farms and abroad.

No breed of swine has made the improvement or progress in popularity and numbers in the same length of time as the Duroc-Jersey. This is due partly to the enthusiastic men who have given their time and intelligence for the breed's interest. But much of it must be credited to the Duroc himself, for as a rustler and a

farmer's favorite there is none that surpasses him.

From the old, rough, slow-maturing Duroc of twenty years ago to the symmetrical, smooth-coated, quick-maturing Duroc has been a long and hard road, but it has been thoroughly traversed; and today he is the most popular hog in the greatest hog country in the world, the corn belt of the United States. He has made good everywhere he has been given a chance. And he is fast gaining grounds on the Pacific Coast.

The Duroc excels:

The Duroc excels:

In prolificacy and milk production. In prepotency and gentle disposition.

In beauty and rugged constitution. In early maturity and ambition.

He is the happy realization of the greatest expectation, the best of hog creation.

H. H. SMITH.

ARMSTRONG SELLS DAIRY HERD AND BUYS MORE BERKSHIRES.

H. G. Armstrong, proprietor of Oak Grove Dairy Farm, Woodland, Cal., the home of Oak Grove Berkshires, sold his dairy herd that was advertised in the August Journal to the State Hospital for the Insane at Stockton, Cal. Incidentally, some indication of the demand for good dairy cows may be gained from the fact that Mr. Armstrong received as high as 22 letters in one day in response to his advertisement in the Journal.

Immediately after the sale of his herd of cattle, Mr. Armstrong boarded a train for the East, where he will select a car of very highly bred registered Berkshires. Many of these will be sows and gilts, which, when added to the present Oak Grove herd, will bring the number of breeding sows and gilts up to about 60 head, and from these Mr. Armstrong hopes to come nearer to filling his orders than he did during the past season.

The Journal has an outline of the breeding of the stock which Mr. Armstrong will bring back with him, and as he will select the individuals himself it is safe to say that the new blood will very materially strengthen the already excellent Oak Grove herd. The stock will be here in time for the State Fair, as it was practically all bought some time before Mr. Armstrong left for the East, and with a few exceptions it is simply a matter of shipping when he gets East.

Buy a good purebred registered boar to head your herd. Show him to the neighbors when you get him home, and then feed and care for him so that you will not be ashamed to show him again in six months' time. He will give you better and longer service if he is well fed, and every extra dollar invested in feed will be returned more than ten fold in better pigs.

Feed the brood sow well during the time she is carrying her pigs. They will then come into the world with well nourished bodies, and with a size that gives them a good start toward rapid growth.

STARTING THE PIGS WELL.

Hog raisers are seeking information not alone as to the best methods of finishing their hogs for market, but also the best methods to bring pigs up to finishing age so that they will most readily make economical gains in the finishing lot. The development of good sizable pigs should really begin before they are born, and in this the food of the brood sow plays an important part, and should be of sufficient quantity and high in nutriment. After the pigs are born,

Oak Grove BERKSHIRES



Oak Grove Herd of Registered Berkshires has been increased in size until we now have over fifty brood sows of the most approved type and breeding. Recent additions to the herd have very materially raised our standard of quality.

At the head of our herd are the great boars, IMPROVER B, ARTFUL MASTERPIECE, BRINTON'S LONGFELLOW and IOWANA MAJESTY. This group of boars is not surpassed in quality in the West.

The entire herd is immunized
against hog cholera and
nothing but immunized stock
is sent out

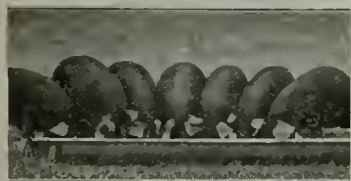
About December 1st we shall be ready to make delivery of pigs by IMPROVER B, and reservations for his pigs should be made early, as the demand has already begun.

Oak Grove Farm is only about 30 minutes from Sacramento by electric car, and during State Fair week we shall make special arrangements to provide for those who wish to visit the farm and see our whole herd. We invite interested parties to call at our exhibit on the fair grounds, where arrangements may be made to visit the farm.

OAK GROVE DAIRY FARM

H. G. ARMSTRONG, Proprietor

Woodland, California



BLATCHFORD'S PIG MEAL

WEANS THEM SAFELY
and
STARTS THEM RIGHT.

100 POUNDS makes 100 GALLONS
of
PERFECT, SMOOTH, NOURISH-
ING MILK SUBSTITUTE.

FREE FOLDER AND PRICES ON
REQUEST.

COULSON CO.

PETALUMA, CALIFORNIA.

BRENTWOOD IRRIGATED FARMS

"Best in the West"

Hog Raising Should Bring Handsome Profits on Brentwood Irrigated Farms

Over half the pork products consumed in California are shipped in from the East. The demand is growing faster than the supply.

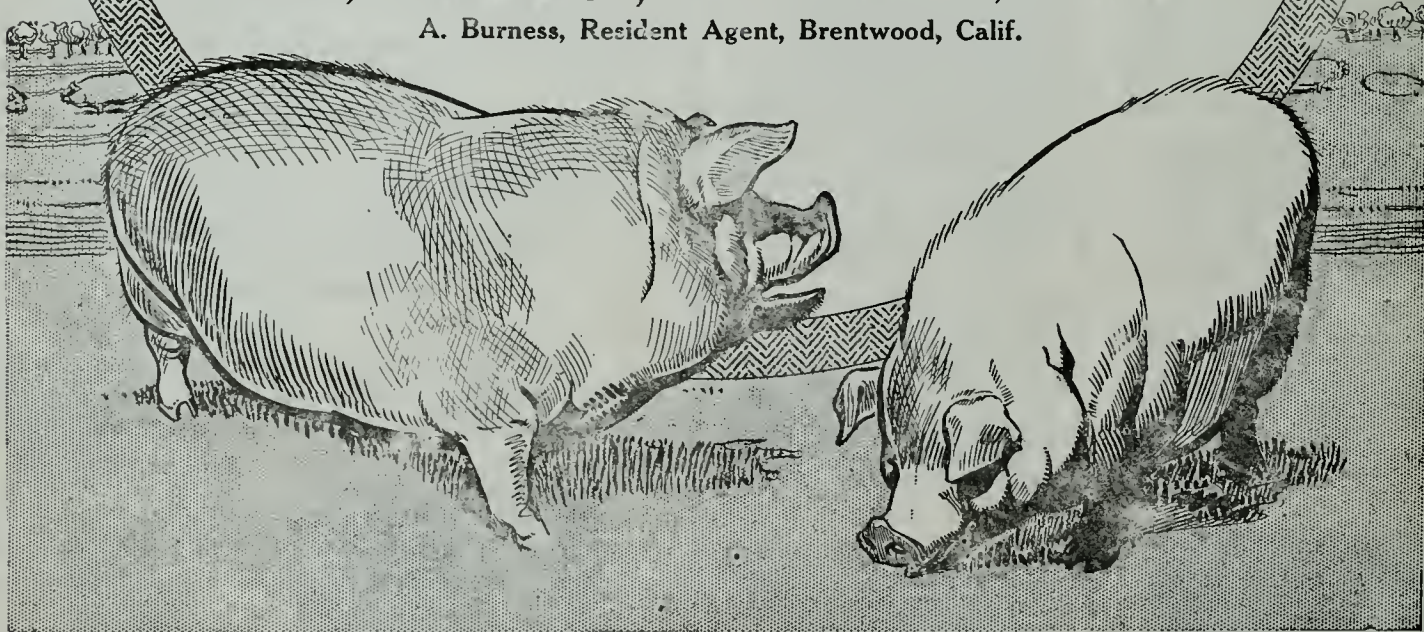
Brentwood Irrigated Farms are located east of Mt. Diablo in Eastern Contra Costa County, 60 miles from the million people who live around San Francisco Bay.

Complete irrigation system, of the highest type of construction.

With the fertile soil, ample water, excellent climate and ready market, Brentwood Irrigated Farms give large returns on alfalfa, fruits, nuts, vegetables and dairy, pork and poultry products.

Price \$300 an acre including water right. Write for illustrated pamphlet.

Balfour, Guthrie & Co., 350 California Street, San Francisco
A. Burness, Resident Agent, Brentwood, Calif.



the milk production of the sow has a great effect upon the growth and development of the pigs, and feeds that stimulate milk flow are to be preferred. As a feed for the sow both before and after farrowing molasses, dried beet pulp has long been recognized as a valuable feed by well informed feeders. It is fed to some extent here on the Pacific Coast, but it could be profitably fed in almost every herd, and especially on farms where succulent feeds are not easily obtainable.

We have before us extracts from letters of two representative hog

raisers on the coast, who are feeding molasses dried beet pulp. One is a large feeder of market hogs and the other a breeder of purebred O. I. C. breeding stock.

Rasmussen & Plake, Long Beach, Washington, write the following in regard to their experience with molasses dried beet pulp:

"As we surmise it would interest you to hear about the results we have gotten with molasses dried beet pulp feeding it to hogs we will try to explain in a few words the results of our experiment, but will say that if we were to send you full

information about the advantages of using this feed for hogs we would have to write a little book or pamphlet.

"We are feeding Larowe's molasses dried beet pulp to hogs of all ages, including those being fattened for the market. It is especially good for mother sows, as it increases the milk flow very much.

About two months ago we put 40 six weeks' old pigs on trial. The ration for each was four pounds skim milk, one-half pound molasses dried beet pulp, one-half pound wheat shorts. This naturally had to be in-

creased in the same proportion. After two months feeding most of the 40 pigs now weigh from 80 to 90 pounds.

The molasses has to be fed dry, as neither the young nor the older stock like it wet. Molasses dried beet pulp is without doubt the cheapest and healthiest hog feed on the market today."

C. B. Cunningham, Mills, Cal., who has established an enviable reputation for the quality of his registered purebred O. I. C. swine, has had excellent results with molasses dried

beet pulp, as indicated by the following letter:

"I have used considerable beet pulp during the past 18 months in feeding of swine and am well satisfied with results. Have found equal parts of ground grain and beet pulp, well mixed, salted and soaked, an extremely good feed for fattening hogs.

"Equal parts of alfalfa meal, ground grain and beet pulp make a well-balanced feed for all sizes and ages, and the swine do well on it. For sows with suckling pigs equal parts of wheat middlings, alfalfa meal, beet pulp and ground grain, made into a thick slop, give the best of results, the sows keeping well up in flesh and giving an abundance of milk.

"For pigs, just weaned, the above slop with the addition of a double handful of calf meal for each four gallons of slop is used."

The Live Stock and Dairy Journal:

I am starting a small herd of hogs. I have a boar and two young sows that I used the breeding crate with successfully, but my problem is this: I have two rather large sows and the boar is medium size, and he can not do a service with them as he can not reach. What method shall I use? I have a good registered Berkshire boar.

How old should a bull be to begin service, and should he be allowed to run with the herd?—J. B., Fresno Co.

You can most conveniently find a way of your hog breeding difficulty by using a raised platform for the boar in connection with the breeding crate. It should be slightly sloping and have good stout cleats to prevent the boar from slipping.

It is not advisable to give a bull much service before he is at least 18 months of age. Even then he should be given only light service at first. It is better not to let him run with the herd. He should have a good substantial pen or yard, with provision made to let him have plenty of exercise.

THE BEAUTIFUL BUTTERFLY THREATENS ALFALFA CULTURE.

The beautiful alfalfa butterfly with its golden and orange colors that contrast conspicuously with the bright green of the fields, brings no enjoyment to the alfalfa grower in the Southwest, for its appearance may mean that in a few weeks the bright green of the alfalfa may be transformed into brown, dead stubble by a caterpillar. Nearly every year this happens to a greater or less degree in the Imperial Valley of California and in the Salt River Valley in Arizona. To aid these alfalfa growers to rid themselves of this pest the United States Department of Agriculture has just issued a bulletin (No. 124) entitled, "The Alfalfa Caterpillar," which may be had free of charge by those who may profit by it.

The caterpillar that evolves from the eggs of the attractive butterfly is found in all the United States save a few on the Atlantic seaboard. Its main sphere of action, however, is in the West. In the Imperial Valley of California in 1912 the hay crop was lessened by one-third through the feeding of these caterpillars. In 1913 fields in the Salt River Valley of Arizona had as much as 50 per cent of the alfalfa destroyed. In these southwestern sections alone from \$500,000 to \$1,000,000 damage annually results from its ravages.

The butterfly is an easy one to single out. The wing is an orange color with a black outer border and a lighter yellow color on the lowerside with no border. There is a small black spot in each of the fore wings and a double spot of orange on each hind wing. When the butterfly is at rest the lower surface of the wing

is the one noticed. The larvae that hatch from the eggs of the butterfly are dark, tiny, cylindrical objects, which soon take on a green color almost exactly the shade of the alfalfa. The caterpillar within 12 days attains a length of 1½ inches. Energetic Farmer May Do Much to Eliminate Pest.

The energetic, up-to-date farmer can greatly reduce and at times eliminate totally the damage done by the caterpillars of the alfalfa butterfly. The tiny larvae from which the caterpillar develops, if exposed to the hot sun and dust, soon dies, and when careful methods of haying are followed under a hot sun most of the creatures die. The careful farmer who follows the suggestions given herewith should save a great part of his alfalfa crop from destruction.

Suggestions for Control.

Keep the ranch in the best possible cultural condition. Irrigate it often and thoroughly and as soon after cutting as the crop of hay can be gotten off the ground.

Renovate every winter and during the month of August, or even oftener, if possible, either by disking or by use of an alfalfa renovator, thus disturbing any pupæ that may be present, and putting the land and alfalfa in condition for good growth of succeeding crops.

Cut the alfalfa close to the ground and clean, especially along the ditch banks, borders and turning rows, as well as in the main part of the field.

Cut the alfalfa earlier than is the general rule. The proper time is when it is just coming in bloom or is one-tenth in bloom. Watch for caterpillars in the early spring crop, and if many nearly grown ones are observed, cut the hay a few days before it is in bloom, and thus save the next and future crops.

A minimum amount of damage occurs in fields that are systematically pastured all or a part of the time.

A field should never be abandoned because the caterpillars threaten the destruction of a crop of alfalfa before the hay can possibly mature. Mow it at once, cutting it low and clean, thus saving part of the present crop, and in so doing starve and allow the heat of the sun to kill a great many of this generation of worms. Follow this by disking and then by either rolling or brush dragging, and a great majority of any remaining larvae will be killed. The ground should then be thoroughly irrigated, and by these efforts the coming crop will be assured.

Turkeys and chickens when allowed the run of a field will keep the numbers of the caterpillars at a minimum.

The protection of toads should be encouraged, as they eat many of these insects, as well as other injurious forms.

It has been noted that a carrying out of only part of these recommendations will not at all save one's crop. The best results come to the one who is thorough in method.

Co-operation among all farmers is necessary to suppress an insect attack completely. An occasional outbreak has been known to occur upon a farm or ranch that is under the best possible condition of crop culture, but in each case it was noted that the careless methods of a neighbor were responsible for the reinfestation.

MODEL HERD OF BERKSHIRES TO BE REPRESENTED AT CALI- FORNIA STATE FAIR.

The hog show at California State Fair this year will be strengthened by the presence of a strong showing of registered Berkshires from Model Herd owned by J. L. Gish, Laws, Cal. Mr. Gish writes the Journal that he has entries in a number of classes. The quality of this herd assures keen contention for honors in the classes in which it has entries.

O. I. C. SWINE

My herd is composed of Individuals carrying the most approved blood of the breed, and its quality is unsurpassed in the West.

Entire Herd Immunized Against Hog Cholera

Have a few choice young boars and sow pigs ready for delivery. Eight selected sows due to farrow in October, bred to EL CAPITAN, IOWA BOY, and CRESCENT CARL. These pigs will be ready for delivery about December 1st. It will be well to reserve your pigs early as they sell young.

ALL STOCK SENT OUT WILL BE
IMMUNIZED AGAINST HOG CHOLERA,
CRATED AND REGISTERED FREE.

C. B. CUNNINGHAM
MILLS, CALIFORNIA



BOARS SOWS PIGS

I have on hand a limited number of young Berkshire boars, a few gels, and some young pigs of both sexes. These are especially choice and of good breeding. Some are sired by RIVAL'S CRUSADER and LORD DUKE, and one or two bred here are by KENNETT LEE JR. Order early as the supply is limited.

G. A. MURPHY, Box 300, Perkins, Cal.

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BREEDERS OF REGISTERED STOCK ONLY

Holsteins with the TYPE, CONFORMATION, CAPACITY, BREEDING and A. R. O. backing to make them producers. INDIVIDUALITY and PERFORMANCE, as well as breeding, constitute our basis of judgment of animals. Not only must they be bred in producing lines, but they must be producers themselves, having the capacity for work, and the vigor, and strength, and constitution which go to make them business animals.

Herd Sires—SIR JOHANNA FAYNE (No. 42147), and OAK DE KOL OLLIE HOMESTEAD (No. 85529).

Berkshires ONE HUNDRED choice sows, bred to the following boars, have farrowed pigs during the months of March, April and May. These sires are of outstanding merit as individuals, and represents the very best in Berkshire blood lines: Rival's Iowa Baron (172535), Baron Premier 102d (172300), Masterpiece Rival 2d (137725), Ames' Rival 36th (176400), Double Champion (168700), Rival's Iowa Baron 2d (172536), Artful Belle's Rival 3d (133678).

The sows are equal in breeding and quality to the boars, and these matings have brought pigs that are the best in Berkshire type and characteristics.

Write us for Holsteins and Berkshires, or, better come and see us.

IOWANA FARMS, Davenport, Iowa J. L. Thatcher, Manager



MODEL HERD OF REGISTERED BERKSHIRES

Shows in the illustration above a few of its four-month-old pigs. We have a few of this type for sale. They are good enough to go into any herd.

J. L. GISH, Laws, California

When writing advertisers it will be appreciated by advertiser and publisher if you start your letter: "Referring to advertisement in the Live Stock and Dairy Journal."

SHEEP

BETTER BREEDING

By ROSCOE WOOD in The National Wool Grower.

While the wool season is past for another year we cannot refrain from mentioning the fact that we have noticed much discussion about the preparation of the wool clip and proposed methods for improving it, but after all is said and done, we fail to discover much of practical value so far as any individual grower or even any single community is concerned. At the recent Washington conference at which evidently few woolgrowers were present one of the prominent speakers who represents the buying side plainly told his audience that there was little use in making any changes in the methods of putting up wool. And from the attitude that dealers generally take it looks as if he were right. Will some one inform us what inducement there is for a grower to keep his tags separate from the clip when buyers deduct one per cent whether separate or sacked with the fleeces, and if separate and the tags exceed one per cent of two-thirds of the excess is further deducted? In other words for the trouble and desire to put up his clip in the best condition the grower is penalized just that much.

Then there is the matter of buck wool. All except very coarse is penalized one-half. Is there anything fair or reasonable in such method? It practically amounts to reducing the total value of a buck fleece to much less than that of an average ewe or yearling fleece. Does anyone suppose for an instant that such is the actual condition? The days of the old greasy Vermont Merino have gone by so far as buck fleeces are concerned. The buck fleeces of today are generally grading fine delaine or fine medium, with but little heavier shrinkage than the average band, while the quality of the fleece more than offsets the heavier shrinkage. For this gouging cut-throat practice we see but one of two remedies, either to mix the buck fleeces throughout the entire clip, or sack and sell separately upon its own merits. Where the buyer of the clip refuses to buy the buck wool on a fair basis, sell it to someone else or ship to a scouring mill and let it bring what it is actually worth. Such practices as buyers and dealers now follow but invite dishonesty and deception.

Marketing of the wool clip seems to be one of the most disagreeable and unsatisfactory parts of a wool-grower's business. There is no similar product of so universal production and consumption that is subject to such unfavorable market conditions. There is no standard by which the producer is able to determine the value of his product, there is no open market by which he may obtain an intelligent idea of what it is actually worth at any time. It is just guess and luck. It is worth just what he can get for it whenever he wants to sell. This depends entirely upon the mood of the buyer. In actual practice little consideration is given to the real merits of the clip of wool. A set price is determined upon for any particular section, and the best clips and the poorest will not vary two cents a pound. Do such methods conduce to improvement of wools in their production and marketing?

In all this discussion and agitation for better methods and better conditions for the wool grower, we believe the real big thing which is of fundamental importance to the improve-

ment of his condition has been overlooked or at least not sufficiently emphasized. That is the necessity for better and more uniform breeding. Too many have been sheep raisers and not breeders. Little regard has been given to the ewe band, just so they would breed. The same has applied to the bucks used. Any old breeding went, just so lambs were produced. Many men in the business have actually not known the difference in the grade and quality of their ewes so as to sort them for breeding along any sensible plan. They have bought rams of the breed and quality that cost them the least money at the time of purchase, which generally means they secured the poorest and ultimately the dearest to be had.

Too many have been led away by the fallacy of crossbreeding and the use of crossbred and grade bucks. They think a sheep can be made like a sandwich; they can take the good parts of a Merino and combine them with the characteristics of the mutton breed that they desire. But it does not work out that way. The result is that many bands today show from ten to forty different breeds and combinations, with uniformity conspicuous by its absence. Can such lack of method be concealed in the wool clip? Hardly; neither can it be profitable.

The sheep industry in this country is changing; it is developing into a real business, and the time is fast approaching if not already here when it must be conducted on business principles if success is to be attained. The old haphazard, happy-go-lucky methods or rather lack of them which obtained when men considered the running of sheep on the free open range the year round as the shortest route to unbounded wealth are forcing all who continue to cling to them to quit the business. With the recognition of the importance and the necessity of its proper conduct must come the realization of the necessity of proper breed selection and intelligence in breeding.

The matter of the selection of the breed which is the most profitable is getting beyond that stage where it devolves upon the whim or predilection of the individual. It must be intelligently determined by the conditions which obtain in any given section. For instance, in the early lamb raising sections of Idaho with their luxuriant mountain range and abundance of water that breed should be adopted by the individual which has been proven by the majority in that locality to have been most profitable in producing lambs for the market. Likewise in sections where lambs fat for the block cannot be produced other breeds which are adapted to producing feeder lambs or for producing ewes of the desired characteristics for breeders must be adopted.

Whatever breed may be most popular in any locality should be generally used. It should be developed and kept pure. Where conditions may require both a coarse wool breed and a Merino each should be kept pure so far as the breeding flock is concerned. Whether it be Shropshire or Hampshire, Cotswold or Lincoln, let that be the breed for that locality. Or if conditions require the Merino characteristics in the breeding flock let that type of Merino which is best adapted to the conditions there be developed and maintained and improved. In the process let it be kept pure and free from admixture with other breeds.

This cross breeding and everlasting mixing of breeds has done as much to drive the Eastern farmers entirely out of sheep as any other one factor, and it has been of no small importance in retarding improvement of the conditions of the Western range man. Extreme fluctuations in market prices for both wool and mutton have caused too many men to change their purpose of breeding, or rather it has prevented them from having any fixed purpose in their breeding. One year they think they want to raise lambs to sell, another year to raise wool, and again they want to replenish their ewes from the lambs. Chance and not intelligence seems too often to determine the breeding. The result is that too many herds contain every conceivable form of sheep. The band of even, well bred ewes that shows uniformity and breeding character is the glaring exception. Where such band is found there is located a man who has been successful in the sheep business and

is recognized in his community as a progressive commercial leader.

Whether it be on the wool market or the sheep market uniformity commands a premium. A clip of wool which runs all the same grade, the same staple, and the same character, will sell quicker and bring nearer its full value than one which contains a dozen different grades. A bunch of lambs that comes into the market pens all alike, of one breed, of nearly the same size and weight always outsells a lot that presents everything

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I offer for sale a choice selection of yearling Shropshire and Merino Rams. The Shropshires are sired by the rams imported from England by me in 1911. Also have for sale 80 head of 2-year-old Merino Rams. Visit my farm and see these rams, or write for prices.

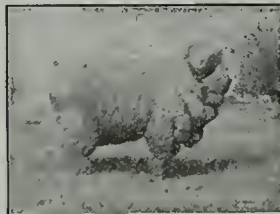
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I OFFER FOR SALE

1400 Yearling Rams
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Prompt Delivery. Correspondence Invited
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SAN RAMON SHROPSHIRE FLOCK

PRIZES WON BY FLOCK, 1912:

California State Fair—Six firsts, Champion Ram and Champion Ewe.
Oregon State Fair—Two firsts, Champion Ram and Champion Ewe.
Spokane (Wash.) Interstate Fair—Five firsts, Champion Ewe.
Boise (Idaho) Intermountain Fair—Eleven firsts, Champion Ram and Ewe over all breeds.

PUREBRED AND REGISTERED SHROPSHIRE RAMS FOR SALE. INDIVIDUAL OR CARLOAD LOTS.

Bishop Brothers, San Ramon, California



First Prize Ram Lamb
at Omaha.



First Prize Ewe Lamb
at Omaha.

from a black-face to a wrinkly Merino with all the varying sizes. Such uniformity can only be obtained by intelligent breeding. This involves selection of ewes and the use of purebred rams.

When it comes time in the fall to make up the herds for breeding the ewes should be sorted that each lot should be as near of a kind as is possible, as to breeding, size and general character. Where a man has only one herd and it contains too wide variation in breed appearance it would well pay him to sort the herd and breed in two lots in order to make use of the proper rams. The results would far more than repay the extra trouble and expense.

While proper sorting of the ewes is important the selection of the rams is the essential factor in improving the quality and the character of the produce. The ram is half the flock. He comes very near being the whole flock when it comes to a question of improvement. This has been demonstrated time and again in pure bred flocks, and it holds equally true in market flocks. Study the history of pure bred livestock breeding for the last century and even longer of any and all breeds in all countries, and you will find that the men whose names stand out as the great improvers of their breed have acquired their fame through the production or use of a great sire. A sire will make or mar any herd or flock. Who ever heard of a great flock of ewes bringing fame and profit to a breeder without a great sire? On the other hand many are the instances in which a single ram has made the reputation of a breeder, when the ewes were of little more than average quality.

When such results obtain in pure bred flocks the importance of the selection of the ram for the market flock must be patent to even the most casual observer.

Much stress has recently been placed upon Australian methods of preparing wool for market and an expert wool man from that country has been demonstrating to American growers these methods, but too little attention has been called to the factor that has made possible the superiority of Australian wools, viz.: their breeding methods. First and foremost of these is their regard for the importance of a good ram. Many of their breeders are close, keen judges of individual merit as well as students of breeding, and they let nothing stand in the way of securing the best rams to be had. The general growers are imbued with the same spirit and thus furnish abundant incentive to stud flock breeders to spend money and effort in producing something better. Proof of this is to be found in the prices that there prevail for good rams, a level which seems to frighten to death most American sheepmen. The wisdom of which is shown, however, in the quality and price of their wool clip and the profits which accrue.

The one first and absolute essential in the selection of the ram is that he be purebred. Whatever the breed, which has been already determined by conditions of production and market, the ram must not be a crossbred. The purebred ram has been bred for generations along certain lines and his breed characteristics have become so firmly established that their transmission to his progeny is a practical certainty. His prepotency insures improvement which cannot be obtained by the use of a crossbred ram or one of indifferent pedigree. Improvement in weight of fleece, in size, in general conformation, in fleshing qualities, in fact along any desired line can be more quickly obtained by the use of purebred rams of the proper breed and character than by any other method.

In selecting rams, however, careful attention must be given to individual

merit. You have some particular defect in your ewes that you want to remedy or there is some particular feature that you wish to improve or develop. To do this successfully you must select rams which are superior in these respects. If you want to increase the weight of fleece you must select heavy fleeced rams. If you want to produce a better formed lamb you must look closely to the conformation of the ram. Strong constitution and heavy bone are essential in any ram; with these are necessarily implied many other good qualities. Beyond that you must select such rams as show most strongly the special qualities which you want to produce in the lambs. In all your selections get your rams as uniform as possible. Keep that feature ever prominent.

The problems of breeding and really improving a band of sheep are numerous and not all simple. We have but mentioned one or two of the essentials that seem most important to emphasize at this time if the general industry is to improve as it must if it continues. That improvement and change of method must come is vaguely realized by most men now raising sheep, but many of them seem to be groping in the dark as to just exactly what form this must first take. The selection of breeds best adapted to conditions of production and market, the improvement of the present flocks by the use of purebred rams of such breeds are essentials to which must be added a continuity of purpose in breeding which is not changed by every swing of the market pendulum and a determination to produce actual improvement in each succeeding crop of lambs. By giving much attention to these factors which really underlie the entire industry and are wholly within the control of the grower we believe great and lasting results can be secured in the general improvement of American sheep husbandry.

HAPPY LIVES ON FARMS PURPOSE OF THIS TEACHING.

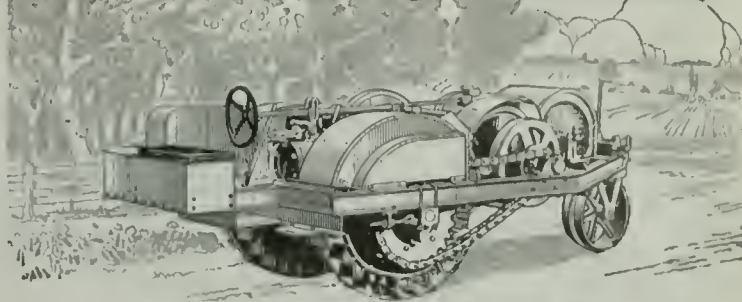
So rapidly is the idea spreading throughout California that agriculture ought to be taught in every school district, that practical farming ought to be a part of every high school's courses and that the schools should fit instead of unfit boys for success and happiness in country life, that the University of California is vigorously increasing its efforts to meet the great demand for an adequate supply of well-trained teachers of agriculture.

It is now being announced by the University that to win a high school teacher's certificate in agriculture hereafter the candidate must take his major in the Division of Agriculture and must complete at least one course each in soils, economic botany, plant propagation, pomology, agronomy, landscape gardening, plant pathology, economic entomology, farm management, live stock, dairying, poultry, veterinary science, farm machinery and irrigation. In addition to all his other four years' work at Berkeley and at the University Farm at Davis, he must spend a special six weeks' summer term at the University Farm at Davis, studying and doing the practical operations on a farm, including methods of tillage, irrigation and crop culture; the care and management of horses, cattle, sheep, hogs and poultry; practice in dairy work, and the care of orchards and vineyards.

At the University Farm October 5 to November 14 the University is to offer "short courses" in many practical subjects especially planned to meet the needs of practical farmers—men actually engaged in farming as investment and livelihood.

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Coast Built For Coast Use

The ToeHold tractor is built on the coast to meet the requirements of coast farmers. It is especially designed for orchard and vineyard work, but will give a good account of itself at practically any power job.

Rumely ToeHold Tractor

It is low, narrow and light. It will plow close to trees and pass under limbs. All parts are protected from dirt and dust. An air clarifier keeps dirt out of carburetor.

The ToeHold drive-wheels are exclusive features. They do not pack the soil, but give flat backward pressure, enabling the ToeHold to deliver maximum power at the draw-bar.

Ask for ToeHold catalog ED 32. It gives complete information.

The ToeHold is what you want for your larger power jobs, and the Rumely-Falk and the Rumely-Olds are good stationary engines for your smaller ones. The Rumely-Olds burns gasoline, and the Rumely-Falk stoves tops or kerosene. Every Rumely machine is backed by Rumely service—49 branches and 11,000 dealers. Supplies and parts without delay.

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BEEF CATTLE

Timely Advice in Regard to Silos in the Southwest

A special demonstration in cattle feeding in Amarillo, Texas, has led to the compilation of certain data, on how and when to fill a silo, which should be of interest to farmers in the Southwest. In Western Texas, Oklahoma, Arizona, New Mexico, California, Colorado, Utah and Western Kansas, there are undoubtedly many farmers who are about to fill silos for the first time this year and for such the following should be timely:

The proper time to cut this feed for silage is when the seed are in the stiff dough stage and the bottom leaves begin to turn brown, for at this stage the plant will have its maximum nutritive value and yet be green enough to keep well in the silo. This advice applies particularly to the silage in the Panhandle of Texas, the greater part of which is made from Kaffir, milo, feterita and sweet sorghum.

When there is a large amount of feed to be cut, the work should be done with a row binder, this being the most economical method. In hauling the feed from the field to the silo, a wagon with a low-down bed is much better than one with a regular hay frame, as the green bundles are rather heavy to lift. Use sufficient wagons to haul feed as fast as cut. It should not be allowed to wilt or become partly cured before putting into the silo. It will not keep as well if allowed to become dry. Wagons should be well loaded each trip, otherwise the expense of filling the silo will be greatly increased. If one has strong wagons four-horse teams may be used to advantage.

Silage should be cut into one-half inch lengths, as it packs much closer than when left longer, thus crowding out the air, and the silage keeps better. The capacity of the silo is also increased and there is less waste in feeding, as all will be eaten.

The power required to run the silage cutter, with blower attached, is ordinarily figured at one horsepower for each inch of cutter—that is, a 15-inch cutter will require a 15 horse-power gasoline engine, but in filling a pit silo where no blower is required, only about half this power is needed.

On of the most, if not the most, important part in filling a silo is the packing of the silage. The silage must be packed well if it is to keep, for this packing forces out the air and the essential thing in making silage is the exclusion of air. If air spaces are left in the silo, large amounts of silage will be lost. In a silo 12 feet in diameter and with a small cutter, use two or more men. In large silos and filling with large cutters, keep three or more men in the silo and see that they tramp all the time. Pack the edges next to the wall; the middle will take care of itself.

When the plants are green no

water need be added in making silage, but if the silage has begun to dry or cure in the field some water should be run into the silo while being filled. This is done to bring the moisture content of the silage nearer to its natural state, to make it pack down better, and help exclude the air. One safe rule in this matter would be: If in doubt, run in some water. Water will not hurt the silage if there is no excess, and every silo should have either a dirt floor or a drain, which will let any excess water escape. The best place to add the water is to run it into the blower while cutting.

As six or more inches of silage at the top will spoil, it is sometimes advisable to cover the top with some cheap or worthless material. A layer of cut oat straw is sometimes run in for a covering for the silage and wet down and well tramped. This forms a seal and preserves all the feed. When feeding is begun, all of this top layer of spoiled stuff should be thrown aside.

It is advisable to tramp the top of the silage every day for ten days or two weeks after the silo is filled, as this helps to force out the air and tends to prevent the silage from settling away from the wall.

SUMMARY.

Cut crops for silage when seed are in the stiff dough stage.

Keep up with binder in the field; do not let feed lay in the field for several days.

Haul as large loads as possible, and keep all men busy all the time. Cut in one-half inch lengths.

Pack silage well around the edge. No man ever lost anything by packing, and many have lost much silage from lack of it.

Tramp the top of the silage every day for ten days or two weeks.

If in doubt as to moisture, run in water.

THE IMPORTANCE OF COST ACCOUNTING IN FEEDING CATTLE AS SHOWN IN EXPERIMENTS IN THE CORN BELT.

The importance of keeping accurate farm records of the cost of feeding animals is shown in reports giving the profits from feeding on twenty-four Iowa farms.

These records, which were made on the corn belt farms of men known to be careful and experienced feeders, were kept carefully for two years. The results as reported in Farmers' Bulletin No. 588, of the U. S. Department of Agriculture, are as follows:

To determine as accurately as possible the cost of feeding farm animals cost-accounting records were kept for two years on 24 Iowa farms. The men selected were lead-

ing farmers in their communities, known to be careful and experienced feeders. (During the feeding year beginning with the fall of 1909 the average profit on 961 cattle fed in 22 bunches was \$2.05 per head, in addition to the profits on the hogs following them. The prices received were very satisfactory. The 1,504 hogs following these steers were

given extra grain. Market prices in the spring of 1910 were such that a profit of \$6.67 per hog was secured, thus giving a profit of \$12.49 per steer when the pork was credited to the steers.)

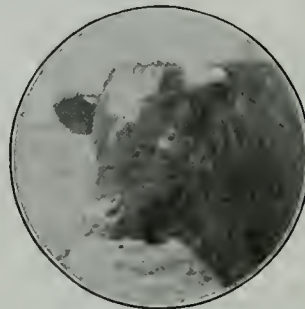
The following feeding year, 1910-11, proved unsatisfactory, due to prices which caused a loss of 78 cents per head on 1,138 cattle that were fed on

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I am able to supply cattle and hogs of nearly all breeds at prices well within the utility value of the animals. To parties wishing car lots of dairy cows, I offer my services either as purchasing agent or as judge and assistant in securing the desired animals. If you are figuring on buying stock in the East or Middle West, write me your wants, as I may know of exactly the stock you wish.

I BREED BERKSHIRE HOGS AND HAVE
FOR SALE STOCK OF ALL AGES.

H. T. MORGAN, Glen Ellyn, Ill.
Live Stock Purchasing Agent.

28 farms. The 1,646 hogs following these steers returned an average profit of \$3.33, or, when the profit on the hogs was credited to the steers, the net profit was \$4.04 per steer.

Until systems of cost accounting which took into account all the overhead charges as well as the main cost were used, the expense of feeding was underestimated. The following table shows the proportionate cost of different items, based on the cost-accounting records kept on the 24 Iowa farms. These figures will vary somewhat from year to year, as the relative prices of cattle and feeds change. The greatest variation will occur in the original cost of the cattle and in the cost of the feeds.

Percentage of the various expenses incurred in cattle feeding on 24 Iowa farms:

Year.	*Purchase price.	Feed.	Interest at 6%.	Labor.	†Shipping and selling.	Total.
1909-10.....	55.3%	36.9%	1.3%	1.6%	4.4%	100%
1910-11.....	59.9	31.8	1.8	1.8	4.7	100

*Delivered at farm (including freight and incidental charges).

†Exclusive of shrinkage.

In this table no account was taken of the occasional loss of a steer, which ordinarily averages one-half of one per cent of the total number; nor were interest, taxes and depreciation charges on the feeding plant considered. Careful study indicates that these and other incidental charges would about offset the value of the manure, which is also difficult to estimate. In the table interest has been charged at 6 per cent on the cost of the cattle laid down at the farm.

The labor percentage was figured on the basis of man labor at 16 cents an hour and horse labor at 8 cents an hour. The labor cost on 49 bunches of cattle, totaling 2,100 head, for an average feeding period of 146 days, was a little over 9½ mills per head. The cost varied from 4 mills to as high as 2 or 3 cents, dependent on the manner in which

the cattle were fed. A larger feeder figured on one cent per day per steer for labor. On 500 head this gave him a small profit, which increased with the number fed. A large feeding plant which was operated for 11 years in Nebraska, and during that time fed about 50,000 steers, figured its cost at 1.2 cents per head per day. While this farm had expensive labor and equipment, it, nevertheless, had every convenience for the economical handling of the feeds.

The selling cost, including freight, yardage, commission and other incidentals, will vary with the distance shipped. The total cost of 676 cattle shipped from central Iowa to Chicago amounted to \$3.98 per head, or 31 cents per hundredweight. This does not include shrinkage in transit, which would have to be added to

these costs. As the average shrinkage in transit of all classes of cattle is about 4 per cent of their live weight, the value of this loss in weight may be added to the above costs and the amount calculated on the hundredweight basis. These figures give a fair working estimate, as ordinarily the freight rate will not run much higher, because persons living farther east will either be a shorter distance from Chicago or will choose some market still farther east. Those living farther west will, to a great extent, patronize the "river" stockyards. A prominent Kansas feeder estimates, figuring all charges, that it costs 50 cents per hundredweight to ship from the central part of that State to Chicago, this charge varying somewhat with the weight of the cattle.

The difference between the purchase price and the selling price of



THE PACIFIC COAST NEEDS MORE LIKE THESE.

Good ones in the registered Shorthorn Herd owned by Thornton S. Glide, Davis, Cal.

an animal is called the margin of profit. This is usually estimated on the basis of 100 pounds live weight. Thus a margin of \$1.50 means that the feeder received \$1.50 per hundred weight more for the animals of margin than he paid for them. The amount factor in the profit from feeding steers. The margin required to break even in feeding operations depends upon a number of factors, the principal ones being (1) the purchase price, (2) the weight of the cattle purchased, (3) the value of the feeds used, (4) the gain in weight made by the animals, and (5) the length of the feeding period. The higher the purchase price the heavier the steer when purchased, the cheaper the feeds, the greater the daily gains, and the shorter the feeding period, the smaller the margin may be between the purchase price and the selling price of the cattle, without

loss to the feeder. With a steer of poor quality and with high-priced feeds, the margin must of necessity be great, but with the best quality of steers and with cheap feeds the necessary margin may be very small.

Resolve now that no female in your herd will be bred to anything but a registered purebred sire this season. Buy one or more yourself, if possible. If the size of your herd does not justify the purchase of a sire of the highest quality, talk to some of your neighbors about joining in on the purchase.

A house for the housing of machinery and tools is one of the best investments on the farm. Any machinery manufacturer will tell you that more machinery is destroyed by rust than by wear.

COUNT ON ATTENDING

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At SACRAMENTO, September 12 to 19, Inclusive

A FEW OF THE FEATURES

Harness Racing for \$30,000 in purses. Second Annual California State Fair Round-up with thrilling Wild West Show. Free Attractions, afternoon and evening, costing \$25,000. Competitive displays for \$25,000 worth of premiums. Band Contests for \$3000 in prizes. Locomotive head-on Collision. Elaborate Fireworks Display nightly. Live Stock Show, exhibiting the pick of the Pacific Coast Farms. Horse Show, including special Saddle Horse events. Automobile Show, the largest exhibit of cars in the West. Dairy Products Show, with butter making contests. Poultry, Pigeon and Pet Stock Show, unexcelled anywhere. Farm Implement Show, with interesting demonstrations. Wonderful displays of California's Resources and the products of the Farm, Factory and Home, and other Attractions too numerous to mention here, making in all a Big Week of Enjoyment for Everybody.

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C. W. PAINE, Secretary

THE DAIRY

The Production of Clean, Safe Milk

Persons engaged in the production of milk and consumers interested in procuring clean, safe milk, will be interested in the factors for producing the same, as outlined by the United States Department of Agriculture in a recent Farmers' Bulletin (No. 602), entitled "Production of Clean Milk." The essential factors are outlined as follows:

Clean, healthy cows kept in clean, light, well-ventilated stables.

Stables so constructed as to be easily cleaned.

A clean, well-drained barnyard.

Clean utensils, thoroughly sterilized.

Clean, healthy milkers that milk with dry hands.

A small-top milking pail.

Immediate cooling of the milk to 50° F. or lower.

Storage of milk at a low temperature until delivered.

A separate house for handling the milk.

An abundant supply of pure water.

The new bulletin in its 18 pages contains a number of figures and describes in detail the practical methods that should be followed in the production of clean milk.

How Milk Becomes Diseased.

Bacteria, according to the bulletin, find their way into the milk from various sources. Some may come from the udder itself, where they grow in the milk cisterns and ducts. The greater number, however, come from the dust of the air, the dirt from the udder and flanks, from the milker, and from unclean utensils. Disease-producing bacteria may get into the milk from cows having such diseases as tuberculosis, or from people who handle the milk, who may themselves have contagious diseases or who have been taking care of patients afflicted with such diseases as typhoid fever, diphtheria and septic sore throat.

The consumer is sometimes responsible for the contamination of the milk. Milk bottles should not be taken into a sick room, because infectious diseases can be spread by carrying infected bottles back to the dairy farm. If bottles are left where there are contagious diseases, they should not be collected by the milkman until they have been properly disinfected by the board of health. In the case of typhoid fever or other serious diseases which may be carried in the milk, it is better for the consumer to put out a covered dish for the milk or have it delivered to some member of the household. Until official permission has been granted no milk bottles should be removed from a home in which there is or has recently been a case of communicable disease. The consumer should not use milk bottles for

holding vinegar, kerosene, or liquids other than milk.

Why Clean Milk Is Important.

The consumer is interested in clean milk primarily because no one cares to use a food which is not produced and handled under sanitary conditions. There is a more direct interest, however, because of the danger of contracting disease which may be communicated by this means. Serious epidemics of typhoid fever, septic sore throat, and other diseases have been disseminated through the milk supply. The weight of scientific evidence at the present time leads to the conclusion that tuberculosis may be transmitted from animals to human beings, particularly children, who consume raw milk containing tubercle bacilli.

Cleanliness is not an absolute safeguard against disease, but it is a big factor in preventing contamination. From the health standpoint there is great danger not only from the specific disease-producing bacteria previously mentioned, but from milk that contains large numbers of miscellaneous bacteria which may cause serious digestive troubles, especially in infants and invalids whose diet consists chiefly of milk. There is also the minor consideration of the loss to the consumer from milk souring or otherwise spoiling before it can be used. The cleaner the milk, the longer it will keep good and sweet.

Clean milk not only benefits the consumer, but the milk producer who will consider this subject from an unbiased standpoint will find many ways in which he himself is benefited by producing clean milk. There are a number of items in this connection, which, when considered alone, may seem unimportant, yet collectively they are of great importance. Moreover, they are not only of immediate value, but have a cumulative value reaching far into the future. Tuberculin testing, for example, is not only a safeguard to the purity of the milk supply for the consumer, but is a means of assisting the producer to protect his herd against future ravages of tuberculosis.

Most producers of market milk have experienced the chagrin of having a shipment of milk refused or returned because it reached the market sour, tainted, or otherwise in poor condition. Although such milk may be used for feeding pigs it usually means a complete loss to the producer, as it costs too much to transport it back to the farm and because, depending on the market as an outlet for his milk, he has no means for utilizing small amounts at uncertain intervals. Another important consideration is the un-

CALIFORNIA BREEDERS' First Consignment Sale

100-Registered Holsteins-100

HANFORD, CALIFORNIA

October 28, 1914

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McALISTER & SON	- - - -	Chino
R. F. GUERIN	- - - -	Visalia
G. A. HEWITT	- - - -	Hardwick
T. J. GILKERSON	- - - -	Stratford

All Stock Tuberculin Tested.

Catalogs ready about October 10th. Write for one.

James W. McAlister, Sales Manager, Chino, Cal.

Col. Ben A. Rhoades, of Los Angeles, Auctioneer.

WATCH NEXT ISSUE FOR DESCRIPTIVE AD.

OUR HERD OF REGISTERED

Holstein - Friesians

IS HEADED BY

KING MEAD OF RIVERSIDE 50290

We offer a number of young bulls of exceptional merit, sired by KING MEAD OF RIVERSIDE, and out of A. R. O. cows. Also a few young bulls from dams to be placed on test this fall, which will add greatly to their value after they have left us.

We also have three yearling bulls, sired by LAKESIDE MODEL PRINCE 68712 from A. R. O. dams.

Write or visit us for any particulars.

J. H. HARLAN & CO. WOODLAND, CALIFORNIA

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HOLSTEIN BULLS We offer a few choice registered Holstein-Friesian Bulls out of dams with A. R. O. Ancestry close up. Write for prices and pedigrees.

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MOORLAND FARM HOLSTEINS

Herd Headed by

COLANTHA SIR PONTIAC AAGGIE

One of the Greatest Bulls in the State.

Cows all officially tested. Buy your next Bull here, where you get the best there is.

MOORLAND FARM, MILPITAS, CAL.

K. W. Abbott, Proprietor.

MILLBRAE DAIRY HOLSTEINS

PROPERTY OF ESTATE OF D. O. MILLS

We have a few vigorous bulls of good type and breeding ready for service. Also an unusually fine selection of bull calves. We advise prospective buyers to make an early selection in anticipation of a very heavy fall demand for bulls.

WE HAVE NO FEMALES FOR SALE.

Correspondence Invited.

Visitors Welcome.

14 Miles From San Francisco on Southern Pacific
or San Mateo Electric Cars Leaving 5th and Market

MILLBRAE DAIRY
MILLBRAE, CALIFORNIA

pleasant effect upon the purchaser. Delivering sour or tainted milk usually results in losing the confidence of the dealer; or if it is delivered direct to the consumer, it means the loss of good customers. A reputation for clean milk means fewer complaints, a better class of patrons, and a steady market for the product of the dairy.

Safeguarding the purity of the milk is a protection to health on the farm in several ways: First, the health of the farmer's family, who use a portion of the milk themselves; second, the health of the calves, which live largely on milk. Healthy cows to breed from and pure milk to feed upon are two important factors in rearing thrifty calves and in the development and maintenance of a healthy and profitable herd. Aside from these immediate and definite benefits there is another consideration, not immediately measurable but of vast influence, namely, the moral influence, for no one can learn to produce good and clean milk without learning good methods of care and management of the herd, and the study of these things leads to greater care and intelligence in the economic features of the business.

The new bulletin goes into great detail regarding the precautions necessary for the production of clean milk and the dairy farmer should find it to his advantage to send for the pamphlet.

CREAMCUP HERD Holstein-Friesian Cattle and O. I. C. SWINE

Bull Calves for sale from A. R. O. dams, sired by a grandson of King of the Pontiacs, also by a son of Colantha Johanna Lad.

M. M. HOLDRIDGE,
WOOD COLONY, MODESTO, CAL.

REGISTERED. HOLSTEIN FRIESIANS

Increase the value of your herd by introducing the blood of the greatest producers of the breed. We offer a number of Choice Grandsons of King Segis. Also a number of Grandsons of the world's record cow, Creamelle Vale. Write or call and inspect our herd.

F. & H. STENZEL, SAN LORENZO, CAL.

Registered

HOLSTEIN - FRIESIANS

H. B. COWAN

Box 512 MODESTO, CAL.

Copa De Oro Herd

HOLSTEIN-FRIESIAN CATTLE

For Sale — Six sons of TIRZAH LA POLKA PIETERTJE LAD, who has 43 close relatives who have made 30 pounds or over of butter in seven days.

CHAS. JAY WELCH, LOS BANOS, CAL.

REGISTERED HOLSTEIN FRIESIANS

We offer a grandson of KING OF THE PONTIACS, nearly ready for service. Splendid individual and light in color. Price, \$200.

McALISTER & SON,
CHINO, CALIFORNIA.

REGISTERED HOLSTEIN-FRIESIANS

Herd Headed by
JULIANA KING OF RIVERSIDE
High-class young Bulls for sale.

B. F. ANDERSON,
ROUTE 2, MODESTO, CAL.

EASTERN HOLSTEINS BROUGHT TO DIRK DAIRY FARM.

The Live Stock and Dairy Journal—
I have put in a few weeks visiting some of the many fine herds of Holsteins in the middle west and am bringing home six cows and two calves to strengthen my own herd.

One of the calves is a bull from which I expect great things in years to come. His sire is the young bull, King Korndyke Colantha Ormsby, a son of Colantha Johanna Champion, who already has 21 daughters and three sons in A. R. O., and whose sire, Sir Fayne Concordia, is full brother to Grace Fayne 2nd's Homestead, out of the world's champion, Colantha 4th's Johanna. The sire's dam is Miss Korndyke Maid Ormsby, a 29.26 pound daughter of Sir Korndyke Hengerveld De Kol, the son of Hengerveld De Kol and Pontiac Darkness. The dam's dam is Pieterje Maid Ormsby, champion of 1911 with 145.60 pounds in 30 days.

The dam of the youngster is Miss Fayne Marie Hengerveld, 20.35 pounds butter in seven days and 80.32 pounds in 30 days as a two-year-old. She is a daughter of Sir Fayne Concordia, out of Marie Hengerveld De Kol, 750 pounds butter in 330 days, who brings in again as her sire Sir Korndyke Hengerveld De Kol. She is out of Fairview Kaan Marie Mechthilde, a 22 pound daughter of Mechthilde Josephine Chief.

As an individual the bull is as good as his pedigree. I shall use him on the daughters of Dutch John Korndyke, a son of Sir Korndyke Hengerveld De Kol and Daisy A. Mercedes 5th's Ormsby, a 93 per cent sister of Pieterje Maid Ormsby.

My cows are the same class as the bull, with records up to 900 pounds. They are all with calf to a bull rich in the breeding of Sir Fayne Concordia and Banostine Belle De Kol.

Few of the breeders here will state definitely whether they intend to show at San Francisco, but it is more than possible that Minnesota, Wisconsin, Illinois and Iowa will be well represented. Mr. Thatcher, of Iowa Farms, will certainly take a string.

A visit here among the many herds is of course interesting. But to a Californian a study of the methods here employed and of the conditions which necessitate such methods awakens a new appreciation of the great advantages offered the dairyman and breeder of stock by the great valleys of good old California.

BERTRAM D. SCOTT,

Dirk Dairy Farm, Kings County.

LOCKE SELLS TWO GOOD ONES.

Among recent sales of bulls from the registered Jersey herd of N. H. Locke Co., Lockeford, Cal., are two of high breeding and individual quality. Avery & Schill, Butte county, secured Governor Fox of L 115741. This bull carries a strong combination of Champion Flying Fox, Borello's Golden Ladle and St. Lambert blood.

The Imp of L (107508) is now at the head of J. E. Thorp's registered herd in San Joaquin county. This choice bull, that was a consistent performer on the fair circuit last year, is sired by the great Locke bull, Imp King's Valet, and is out of the imported cow, Derry Circassian.



ARALIA DE KOL 3D.
At 2 years 3 months, milk 1 year 17,509.5 lbs., butter 772.94 lbs.

Early, Heavy, Persistent Production

is outstandingly characteristic in the several families which are represented in our herd of registered Holstein-Friesians. This desirable and profitable quality can be introduced into any dairy herd through the use of one of our bulls. We are offering these especially attractive ones at present:

No. 1, born December 30, 1913. Sire Prince Gelsche Walker, whose first seven dams have largest official butter records of any sire on the Pacific Coast, averaging 29.07 pounds butter in 7 days. The ancestors of this sire are not only among the breed's greatest producers, but they are also the greatest transmitting families known. DAM, Miss Douwe of Riverside. Butter 7 days 18.96 pounds. She is a fine, large cow, with well balanced udder and one of the persistent kind. Her dam is one of the best cows ever imported from Holland, and her sire is a brother to the former world's record cow, Grace Fayne 2d's Homestead, 35.55 pounds butter in 7 days. Price, \$200.00.

No. 2, born January 11, 1914. Sire, King Segis Pontiac Emperor, Grand Champion at the State Fair 1912, and one of the most popular bred sires of the present day. He is a 75 per cent brother to King Segis Pontiac Alcantara, in which a half interest was recently sold for \$25,000.00. Another of his brothers was sold at public sale for \$20,000.00 at 5 months of age. DAM, Cathie B. De Kol 4th, a splendid type of cow, and an exceptional producer. She is sired by one of the best sons of the great De Kol Burke, sire of Riverside Sadie De Kol Burke and six others with records greater than 30 pounds butter in 7 days. This is a very typy calf, and the kind that will increase the production of any herd. Price, \$200.00.

No. 3, born December 16, 1913. Sire, King Segis Pontiac Emperor. DAM, Anna Bergsma De Kol. Record at 4 years 1 month 770 pounds butter from 16,583 pounds milk. On calving immediately after the completion of this record, and without rest, she produced 22.62 pounds butter in 7 days. She is by one of the best sons of De Kol 2d's Butter Boy 3d, 113 A. R. O. daughters. This is one of the most desirable calves that we have to offer. Price, \$300.00.

To the Breeders' Consignment Sale to be held at Hanford, Cal., October 28th, we are consigning some females of exceptional quality, which will be bred to our herd sires, including Segis Pontiac De Kol Burke, the coming young son of Riverside Sadie De Kol Burke. This is the only way in which you can secure his daughters, as they are not for sale at any price. The calves dropped by these cows and helpers will be worth all that you will pay for their dams.

There will be included in the lot ten head of two-year-olds helpers, bred, several of which are sired by a brother of Tilly Alcantara, the cow that now promises to break the world's yearly milk record.

There will also be a good A. R. O. daughter of a 30-lb. cow, bred to the grand champion bull at the State Fair, 1913.

This will afford an excellent opportunity to secure a foundation herd of good sound young cows, all of select type and breeding, and in calf to some of the best sires of the breed.

Will also include in our consignment some of the best young herd bulls ever offered in California, the dams of which have yearly records as high as 750 pounds butter.

A. W. Morris & Sons Corporation

WOODLAND, CALIFORNIA



DIOTIME CLYDE KORNOYKE.
At 2 years 19 days, milk 1 year 17,819 lbs., butter 675.96 lbs.

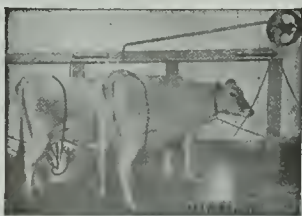
Sunnyside Herd

HOLSTEIN-FRIESIAN CATTLE

Sons of Arcady Pontiac Wayne Hengerveld, son of Hengerveld De Kol, and Homestead Admiral Maida, grandson of Admiral Walker Gelsche, for sale. All 30 pound blood.

Prices and pedigrees on application.

R. F. GUERIN, R. 3, Box 58, Visalia, Cal.



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Sold 200 machines the first year.
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SOLD OVER 1000 MACHINES IN
THE MONTH OF MARCH, 1914.

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C. F. Daniells & Son

Distributors for California and Oregon.

SHORTHORNS MILK STRAIN

Attention Dairymen!
I am breeding the finest stock in the West. Write for prices and pedigrees.

JOHN LYNCH Petaluma, California

BIG MONEY in the OFF SEASON

One Man can run it.

There's a big demand for irrigation wells throughout California and the Southwest. You can Make Big Money during your spare time with the

IMPROVED POWERS COMBINED BORING AND DRILLING MACHINE

Bores a 100 foot well in 10 hours. Will go through gravel, sand or clay; drills through rock. One team takes it over any road. Operated by same team, or by gas engine if preferred. Go tower or staking, rotates its own drill. FREE Catalog; Easy Terms.

Lisle M't'g. Co.
Box 425, 625 Third St.
San Francisco.

Dutch Belted Cattle

My herd of registered Dutch Belted Cattle has won at many of the principal shows of the United States in the strongest competition.

At 1912 Oregon State Fair won every first prize but two, and all Champion and Grand Champion prizes.

At 1912 California State Fair won all first prizes but two, both Gold Medals and all Championships but one.

I have Young Stock of the finest quality for sale.

Write for circular and prices.

FRANK REED SANDERS
MESA, ARIZONA.



Echo 2d's Orchard Daisy
Grand Champion Female 1912 Oregon, California and Arizona State Fairs.

30-DAY AYRSHIRE PRODUCTION.

American Ayrshire breeders are following the very sound policy of featuring yearly production of milk and butter fat rather than the very short time records. For that reason it is not often that we note mention of Ayrshire performance for a period of less than one year. C. M. Winslow, secretary of the Ayrshire Association, has had numerous requests for the figures on the monthly production of the best cows of the breed, and has published information on the subject. A Pacific Coast herd ranks high in the class of mature cows, have two out of the first highest producers for 30 days. These cows are owned by Willowmoor Farms, Redmond, Wash. Gerranton Dora 2nd is credited with 2,319 pounds of milk and 119 pounds butter in 30 days, while Lily of Willowmoor, the champion long-distance cow of the breed, has 2,278 pounds milk and 106 pounds butter to her credit for the 30-day period.

A. J. C. C. INCREASES PRIZE MONEY FOR NATIONAL DAIRY SHOW.

The National Dairy Show held annually at Chicago has proved of immense value to the dairy industry in the United States, and each year marks an increase in attendance and quality and number of exhibits. It is undoubtedly the most advantageous occasion for the showing of dairy cattle that we have in this country, and is so recognized by the leading breed associations. The American Jersey Cattle Club has increased its appropriation for prize money on Jerseys at the 1914 National, so that the total amount offered by the club in special prizes now amounts to \$1,000.

MILK BOTTLES LOST, STRAYED AND BROKEN ESTIMATED TO COST A DEALER OVER \$5,000 YEAR.

According to figures furnished by forty dealers to the United States Department of Agriculture, a milk bottle will last for from 6 to 50 trips, the average being 22½ trips. If these estimates represent average conditions the average dealer would have to obtain a new supply of bottles every 22½ days. If he delivers 10,000 bottles a day and they cost him 3½ cents each, his daily expense for bottles would be \$15.55, or \$5,575.75 a year.

These bottles are not all lost or broken; many of them are merely strayed. Some of the bottles get into the hands of other dealers and some are dumped into the ash barrel by persons ignorant of their value. One million five hundred thousand bottles were rescued from the city dumps during three years by a milk-bottle clearing house in one city.

Milk-bottle clearing houses, established in many cities, have done a good deal to reduce the losses in bottles. The clearing house helps the dealer to recover his own bottles. Ashmen and others are paid from one-fourth to one-half cent for each bottle returned. The usual charge for bottles returned to the owner is from 1 to 1½ cents each. Employees of the exchanges visit the establishments of different dealers regularly and return bottles not belonging to the dealers to the exchange headquarters, where they are washed, sterilized and sorted.

Right today there is a very profitable opportunity for a large number of men on the Pacific Coast to devote their money, time and their best thought to the breeding of grade sows, cows and mares to be sold to farmers for stock raising purposes, and to supply dairy herds. According to the degree of excellence which a man may secure in his grade herd this field offers opportunities equal to the average purebred farm.

ASK BLAIR

to quote you prices on Barns, Silos and Equipment. We can build your barns, install your Silos and Equipment, and turn them over to you ready for your stock and save you money.

WE MAKE A SPECIALTY OF
BUILDING COLD STORAGE
PLANTS.

J. N. Blair & Co.

SACRAMENTO, CAL.

Butchers, Dairy and Cheesemakers' Supplies

Consign your hides and sheepskins.
Highest prices. *

Rancho Santa Marguerita
REGISTERED JERSEYS
OFFICIALLY TESTED
D. F. CONANT, Modesto, Cal.
R5, Box 64

VENADERA HERD
of Registered
JERSEYS
GUY H. MILLER, Prop.
Modesto, Cal.

JERSEY TYPE JERSEY QUALITY

We have a few handsome, vigorous young bulls out of our best cows and sired by MERRY MAIDEN'S CONQUEST, a son of MERRY MAIDEN'S 3D SON, Grand Champion Jersey bull at St. Louis Exposition.

By owning one of these bulls you can introduce into your herd the blood of one of the best bulls of the breed.

Come and see our herd or write your needs. Prompt attention to correspondence.

B. & F. RANCH, F. O. FAZIER, COVINA, CAL.

Exceptional Opportunity TO SECURE THE TYPEY, WELL BRED, REGISTERED BULL, RIOTER OF THE GOLDEN WEST

Pedigree:	Leek's Fern McPherson (176330)	Fame's Silver Pedro (40056)	Pedro's Silver Riotor Pedro's Fame
	Grand Riotor (57524)	Dodge's McP. Pansy (174413)	Landseer Riotor Lass Marlon's Pansy
		Recorder (29239)	Combination 3d Brown Bessie
		Calcina (20208)	Herotas Calcium

This bull is 3½ years old, a fine individual, and will make a profitable sire for some one... Price, \$400.

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C. G. McFARLAND, Owner.

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of Improving a herd is through the sire.

KING'S VALET, Imported, with a show record excelled by none, produces prize winners that are great producers, the average test being over 6.4 for all his helpers in milk.

BORELLO'S GOLDEN LADDIE is also a show bull and producer, the average test of his helpers being over 5.5.

We have for sale very classy young bulls of their blood, bred right, raised right, and handled right.

SEE THESE JERSEYS AT THE FAIRS OR ON
THE RANCH AND MAKE YOUR SELECTION.

N. H. LOCKE CO., LOCKEFORD, CAL.

CHAS. MILLER HERD SALE WILL CONTAIN MANY R. M. COWS.

Of great interest to the Jersey breeders of the Pacific Coast and also to those intending to purchase Jersey cattle is the coming auction sale of the entire herd of registered Jerseys on the farm of the Charles Miller Estate, at Jefferson, Ore. This sale is caused by the death of Mr. Miller, who had spent the past twenty-five years in breeding and developing his cattle for production, constitution and individual beauty.

Foundation stock of many of the leading herds of the West was secured from this pioneer herd, which has shown itself to be composed of producers that are also show animals. It has long been recognized that this was one of the best herds in the West, but only for the past year has it been under official test, as shown by the following:

Winona Rosaline Rieter, in class A. A. Register of Merit, made 467 pounds computed butter as a five-year-old, and when fresh milks easily 40 pounds a day, and with a little extra care would milk 45 to 50 pounds a day.

Figgis Nancy V. of Oregon in Register of Merit Class A. A. made 485 pounds four ounces computed butter in one year, beginning test at 3 years and 10 months of age, dropping a fine heifer calf 12 days after close of test. This cow is capable of making a large test.

Princess Lily Gem in Register of Merit Class A. A. made 334 pounds computed butter in 293 days, at 2 years and 2 months of age at the beginning of the test. This is a most promising young cow of the true dairy type.

There are others in Register of Merit and others that were not entered, but have made much more than enough under official test to qualify them for the Register of Merit. These records were all made under ordinary farm care and six changes in manager and twelve different milkers.

The auction sale on September 16 will be the last opportunity to secure breeding stock from this pioneer herd of Jerseys. Catalogs giving a full description of each of the 75 animals offered for sale are now ready as announced in an advertisement in this issue.

WASHINGTON BREEDER SECURES A GREAT BULL FROM MORRIS HERD.

Elsewhere in this issue is a reproduction of a photograph of King Aeme De Kol, the great five months' old Holstein-Friesian bull calf that Dr. H. K. Stockwell and A. H. Buck, of Monroe, Wash., recently purchased from A. W. Morris & Sons Corporation, Woodland, California, for \$2,000.

While this is the highest price ever paid for a bull in California, the breeding behind this youngster makes him appear a bargain at the price, when compared with prices paid for bulls in the East, that are backed up by records considerably less desirable.

The great yearly records of the first three dams of this calf place him in a class by himself on the Pacific Coast, and we believe that more can be said of him than of any other bull of the breed in service here at the present time.

His dam is Sadie De Kol Aeme, that has a yearly record of 19002.6 pounds of milk, 885.73 pounds butter, at the age of 4 years 3 months. She is out of Riverside Sadie De Kol Burke, with a yearly record of 28826.4 pounds milk, and a two-year record of 54808.2 pounds milk. Her average daily milk production for seven days is 131.5 pounds, for 30 days 125.7 pounds, for six months 100.4 pounds. Her butter record for one year is 1085.13 pounds, and for two years 2065.29 pounds.

The sire of King Aeme De Kol is Aralia King. His first daughters are

See the Schmeiser Giant Engine Scraper AT THE CALIFORNIA STATE FAIR The Machine That has Revolutionized the Leveling of Land



In connection with the SCHMEISER GIANT ENGINE SCRAPER we will have on exhibition our leveler and checker. These machines are a boon to the land owner by bringing down the cost of leveling and checking land from 50% to 75%. They will make your rough and hog wallow land productive and profitable.

Contractors are also invited to visit our exhibit. We can show you how to do more work in a shorter time, and to make more money.

If unable to attend, write us for full particulars.

SCHMEISER MANUFACTURING COMPANY

DAVIS, CALIFORNIA

just coming in milk and are heavy and persistent producers of exceptional type. His first daughter on official test made 20.56 pounds butter in 7 days and 80.86 pounds butter in 30 days. Several others have exceeded 17 pounds in seven days and all are making large yearly records.

The dam of Aralia King is Aralia De Kol, the first cow in the world to produce over 28,000 pounds of milk in one year, and she now holds world's milk and butter record for age. In her twelfth year she produced 28,090 pounds of milk and 1142.32 pounds butter. Her seven-day record eight months after calving is 596.1 pounds milk, 24.995 pounds butter. Her seven-day record at age of 12½ years is 742.3 pounds milk, 30.14 pounds butter. Thirty days, 122.30 pounds butter, 3069.1 pounds milk. In two consecutive years she produced 50,993 pounds milk and 2103 pounds of butter. Aralia De Kol has three daughters with very large records. Possibly the most prominent of these is Aralia De Kol 3d, that made 17,510 pounds milk and 773 pounds butter as a junior two-year-old. Another of her two-year-old daughters has an official record of 21.71 pounds butter in seven days and 89.21 pounds

in 30 days. This helper is now well along on yearly test and is making a very large record.

As an individual, King Aeme De Kol is all that could be desired, and his three nearest dams not only rank among the world's greatest milk and butter producers, but it would be difficult to improve upon their individuality. They are all large cows and especially noted for their great depth of body and large, well-balanced udders.

This young bull is unquestionably the most richly bred Holstein-Friesian bull that has been produced on the Pacific Coast up to the present time.

BELLA VISTA GUERNSEYS IN DEMAND.

The growing popularity of the Guernsey breed among coast dairymen is being shared by all of our Guernsey breeders, and more especially by those who have officially tested their cows. Bella Vista Stock Farm, Martinez, Cal., is the home of a most excellent herd of Guernseys. Official test work has been done in the herd with highly creditable results, and dairymen have been af-

forded an opportunity to secure bulls out of tested dams. Among those to purchase recently is the Stanley Estate, who secured the young bull Ingomar of Bella Vista. His dam, Clementine Mable, has an A. R. record for one year of 535 pounds butter fat.

C. B. Caldwell recently purchased from Bella Vista an unusually good calf, Kitchener's sequel. This calf is a handsome fellow and particularly growthy, tipping the scales at 770 pounds at 10 months.

Dairy helpers that are forced to grow up on scant, dry pasture, can not be expected to secure the digestive capacity necessary to the manufacture of milk in large quantities. See that the helper is well fed so that she may develop capacity and size.

There is probably no more frequent cause of disease among farm animals than the unsanitary buildings and yards which they are forced to live in. A little investment in drains, windows, and good disinfectants returns the very highest rate of interest.

DISPERSAL SALE OF THE MILLER HERD OF A. J. C. C. JERSEYS At JEFFERSON, OREGON, SEPT. 16, 1914

For the past 25 years this herd has been bred and developed for production, constitution and individual beauty and many of the leading herds of the West have secured foundation stock from this farm.

This is your last opportunity to secure breeding stock from this pioneer herd of producers and show animals. The herd consists of about 75 head of cows, heifers and service bulls and young stock. The herd is tuberculin tested and there has never been any abortion on the farm.

The attached coupon will bring you a catalog if mailed to the Chas. Miller Estate, Jefferson, Ore.

LOU MILLER, Executrix CHAS. H. HOYT, Executor

Please send a catalog of your Jersey sale to:

Name _____

P. O. _____

R. F. D. _____

State _____

Abortion In Cows and Mares

May be Prevented if
HOOD FARM ABORTION REMEDY

Is given promptly and freely on the first sign of abortion. Hundreds of breeders have saved valuable animals with this Remedy. By its use, with Hood Farm Breeding Powder, Abortion has been stamped out of many herds when other remedies failed. Write for full information and prices. Mention this paper.

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I offer a choice, Young, Registered Bull, backed by most approved breeding and production. This is an opportunity to get a good one. He should go to head a pure-bred herd.

S. F. WILLIAMS
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El Rancho Palo Verde GUERNSEYS

Won Seven Firsts, Two Championships and Two Grand Championships at Pacific International Show, 1913. Choice stock for sale. Write for pedigrees and prices.

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MESA, ARIZONA

Pacific Herd of GUERNSEYS

Registered stock from A. R. ancestry.
If in need of a bull write me.

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Loleta, California.

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160 ACRES GOOD LAND—Free water to irrigate. Good home market New buildings, on main road, near small town. Price, \$1800; half cash. For particulars address H. H., care The Live Stock and Dairy Journal, Sacramento, Cal.

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Every foot guaranteed. Save one-quarter on your pipe by ordering from us. Write for prices.

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San Francisco.

MORRIS HOLSTEINS PERSIST-
ENTLY MAKE LARGE YEARLY
RECORDS.

Cows in the registered Holstein-Friesian herd owned by A. W. Morris & Sons Corporation, Woodland, Cal., are keeping up the remarkable record established by the herd for large yearly production.

Among those to finish recently are Riverside Seely Girl, 17,590 pounds milk, 634.91 pounds butter fat; Laura Netherland Gerben 2nd, 16,943 pounds milk, 624.80 pounds butter fat; Cobossie Butter Girl, 19,543.2 pounds milk, 662.90 pounds butter fat; Louise of Riverside, 18,362.3 pounds milk, 651.38 pounds butter fat; Ethel of Riverside, 16,569.3 pounds milk, 640.87 pounds butter fat.

It is worthy of comment that in this latest lot to finish, any one of the cows in the average herd would be considered a top notcher, but these five are only individuals in a group of more than 50 cows in a single herd that have each made noteworthy records.

The real sensation in the Morris herd, however, is going to be announced in about three months, barring unforeseen accidents. That great worker, Tilly Alcartra, is almost certain to produce over 30,000 pounds of milk, and thereby break all previous records for any cow of any breed. She has now passed through the most trying weather of the summer and is in the pink of condition. If anything she has taken on a little weight recently, and has been carrying a calf for some months. She has the bright eye, glossy coat, pliable hide and intelligent interest of the perfectly healthy, highly bred dairy cow, and shows absolutely no bad effects of the immense productive labor which she has performed during the past nine months. At the end of nine months Tilly has produced 23,982.9 pounds of milk and 752.77 pounds butter fat. She is now doing 78 pounds of milk daily, and there is every indication that she will establish a new mark for the breeders of the world to aim at.

WILLOWMOOR AYRSHIRES FOR
HAWAII.

Many excellent foundation herds of registered Ayrshires have been sent out from the great 300 head herd owned by J. W. Clise at Willowmoor Farms, Redmond, Wash., and Willowmoor Ayrshires are now well represented in all of the Pacific Coast

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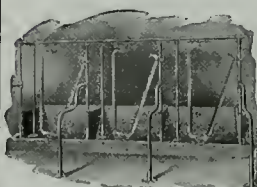


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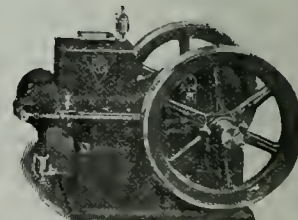
We will have an Ideal Green Feed Silo erected complete with roof in connection with our exhibit, and a filling outfit, including an Alpha Gasoline Engine and Blower-Cutter in actual operation.

We build and equip cow stables, dairy houses, certified milk plants, creameries, cheese factories and ice cream plants.

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DAIRYMEN! You are invited to make our exhibit your headquarters while attending the Fair.



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EVERYTHING FOR DAIRY AND CREAMERY.

Drumm and Sacramento Sts.,
San Francisco.

1016 Western Avenue,
Seattle, Wash.



KING ACME DE KOL.

Registered Holstein Bull Calf, whose three nearest dams average 1037.73 pounds butter, and 25,306.3 pounds milk in one year under semi-official test. This splendid youngster was recently purchased for \$2,000.00 by Dr. H. K. Stockwell and A. H. Buck, Monroe, Washington, from A. W. Morris & Sons Corporation, Woodland, Cal.

Successful Feeders!

of Cattle, Hogs, Horses, Sheep, Mules, Chickens,
and all other farm stock, almost invariably use

Cottonseed Meal and Hulls

The feed that—costs less—produces healthy, sound flesh—
makes hens lay more—causes cows to give more and richer milk.

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Cottonseed Meal has been used extensively in the South as a fertilizer, but not until cotton growing was started in the Imperial Valley was it introduced in California. Cottonseed Meal, containing 7% Nitrogen, 3% Phosphoric Acid and 13% Potash, is a very effective fertilizer when mixed with other materials. Let us tell you about this wonderful fertilizer.

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LOS ANGELES, CAL.
Exclusive Wholesale Selling Agents.



COLANTHA SIR PONTIAC AAGGIE 71084.

A young Holstein-Friesian sire of which great things are expected. Owned jointly by K. W. Abbott, Milpitas, Cal., and L. A. Hall, San Jose, Cal.

states. One of the best small herds to go out from Willowmoor recently was purchased by Mr. George Cooke, Hawaiian Islands. Mr. Cooke secured a most promising heifer in Willowmoor Buntie B, that was champion two-year-old at Pacific International last year. With her first calf she was milking at the rate of over 10,000 pounds of milk per year.

Another heifer secured by Mr. Cooke is Willowmoor Nina, that is sired by Drummondine, the sire of Lily of Willowmoor, the world's record Ayrshire cow in 1912, and the present long-distance champion of the breed.

To head his herd Mr. Cooke selected the bull, Peter Pan 8th, a son of Beuchan Peter Pan, the great Willowmoor bull that was champion of Great Britain and also of the American National Dairy Show.

Mr. Cooke's foundation herd carries some of the best blood that has made Willowmoor Ayrshires famous the world over, both for production and show ring type, and it will do much to strengthen productive dairy blood in Hawaii.

ALL MILK CANS SHOULD BE JACKETED.

The Dairy Division of the Department of Agriculture has just completed a series of tests on the change in temperature of milk in cans during transportation from the farm to the consumer. These tests established the importance of jacketing cans of milk with some appropriate insulating material.

It has been found that milk that has to be sent only short distances or preserved for only a few hours should maintain a temperature of

less than 50°. Even at these temperatures, some bacteria will multiply and cause the souring of the milk, but the increase is slow and during a few hours no serious results will occur. A temperature well below 50° F., however, materially decreases the rate of bacterial growth.

On the other hand, where milk is to be shipped long distances, the initial temperature must be lower, assuming that no provision is made for maintaining the original temperature during transportation. Where milk is in transit for several hours, it is necessary to cool it down to near the freezing point. So soon as the milk can, however, is exposed to air temperature, and especially to the sun, the temperature of the milk begins to rise very rapidly and every precaution should be taken to keep it from being raised by the outside heat.

A series of experiments was recently made in shipping milk cooled to 50°. In these cases the cans were set in an open truck, with no covering to shield them from the direct rays of the sun. The milk was hauled a distance of 13 miles and the average air temperature during the trip was 82.65°. The experiment showed that the cans that were hair-quilt jacketed showed a raise of only 5½° in three hours in the temperature of the milk. The cans that were wrapped with wet burlap showed a milk temperature of 58½° in the same period, or a raise of 8½°. The milk in the unjacketed cans rose in three hours to 78½°, or a rise of 28½°.

It is obvious from these figures that it pays to jacket the cans, in order to maintain a low temperature during transportation.



PRINCESS NANCY, V.

She made 393 pounds computed butter in 318 days, beginning the test at 2 years 29 days of age, and dropped a fine heifer calf 12 days after completion of test. A typical registered Jersey heifer in the herd of Chas. Miller Estate, Jefferson, Ore.

TEN YEARS TO PAY

Dairyland FARMS

FREE WATER

These lands are right in the center of the famous Butter Belt of the San Joaquin Valley.

Both north and south of Dairyland are the great dairying sections that bring the big prices for butter fat.

Rich soil and fine growing climate for alfalfa and ABUNDANT WATER are the reasons.

At Dairyland Farms the dairymen irrigate their alfalfa with ARTESIAN WELLS.

They have no canal charges—no bond assessments—no waiting for their turn—no scarcity in dry years.

The wells flow continuously—sometimes as much as 500,000 gallons a day.

Think what abundant water means to the dairyman—particularly in "dry" years.

Send the coupon—let us tell you more about Dairyland and the Great Artesian Belt.

*Prices around \$100 an acre
Ten Years to Pay*



This is a new artesian well on the farm of Mr. Grant Wills at Dairyland. He drilled a 10-inch well and at 245 feet struck a fine flow of water, which is estimated to be delivering about 700 gallons a minute, often the capacity of a 5-inch pump. He has another well 272 feet deep, and with the two is irrigating his farm with no cost for water or power.



Send the coupon—let us tell you more about the soil, water, climate and transportation facilities at Dairyland.

Stine & Kendrick, 23 Montgomery St., San Francisco
Gentlemen: Please send (without obligation to me) descriptive and illustrated literature on "Dairyland Farms." I am interested in the crops as checked below (X) and would like your special Bulletin on the subject.

Alfalfa
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Melons
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Figs
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Name

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STINE & KENDRICK
23 MONTGOMERY ST. SAN FRANCISCO

Holland and Its Holsteins

By CHADWICK GEROW.

(It is conceded that American breeders have developed a distinctive type of Holstein-Friesian cow, and that this type is quite substantially greater in milk and butter production. Interest in Holstein-Friesians is practically world wide, and to those who have never visited Holland there is a curiosity to know what the Holstein is like in the country which gave her her name. The following article is particularly rich in intimate details of Holstein breeding in Holland. The photographs are by Mr. Gerow, and the cuts and article are reproduced with permission of Holstein-Friesian World, Lacona, N. Y.)

To understand the cattle in Holland we must first look into some of the conditions that exist there. Of course the Province of Friesland is the one in which we are most interested, as that is where the Holstein-Friesian cattle, or Fries, as the Dutch are pleased to call them, originated.

surest means of travel.

The question may arise with you, as it did with me—How does the water ever get into the sea without flowing up hill? Then it is that the Dutchman swells with pride and points to his home product and faithful friend—the old wooden wind mill, and indeed he has not far to search to find one; they are in evidence on every hand. From one place I counted twenty-three. This old servant works away, constantly pumping the water from one level up to a higher one and so on over the dike into the sea. They are also trained to grind the grain, saw the wood, etc., but I am sorry to say electric plants are slowly intruding into the old mill's domain, and I am afraid that before long the sweep of those long arms will no longer indicate which way the wind is blowing.

The soil is of rich clay quality, the sod being so thick and the grass so



HERD OF N. K. KUPERUS & SON, LEEUWARDEN, FRIESLAND.

Friesland is one of the eleven small provinces in the Netherlands, and is located in the northern part, bordering on the North Sea. The country is very level, allowing the gaze to travel several miles in each direction, halted only by the rows of trees that mark the highways or by the little villages of which Holland abounds.

It will also be remembered that Holland is below the sea level. In some places as much as seventy feet, so that it is quite necessary to drain off the rain that falls almost incessantly. To do this drainage the Dutch farmers installed a system of ditches which serve a double purpose—carry off the water and confine the cattle. The ditches are dug from 3 to 5 feet deep and, with the water that always remains in them, form an excellent fence. Of course bridges have to be provided to drive from one field to another and across these gates are placed. It is no easy matter to cut cross lots, as the ditches are so wide and the water so deep that the beaten path from bridge to bridge is the

fine that it feels like a cushion under the feet. They never have to plow their pasture or mow fields, the hay comes on year after year in over abundance. This land is worth \$500 an acre and can scarcely be bought at that. Many times two crops are harvested, one being gathered green, put in a pile and covered with clay. It makes very good silage.

Let us next consider the buildings or building, as the house and barn are always connected, the house generally being in front. Hired walls and thatch roofs are the common combination, although tile roofing is frequently used.

It has been said that if cleanliness was akin to godliness, the Dutch should have the first row reserved for them in Heaven, and indeed it is so. When you approach the door of the barn, the Dutchman removes his large wooden shoes and walks in in his stocking feet, while you, awed by this action, carefully wipe your feet on a mat lying outside the door and follow in fear and trembling. When



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The best gasoline the Standard Oil Company can make

AYRSHIRES

Three hundred registered Ayrshires to select from. Unbeaten in the show ring. Holders of three official world's records for yearly production made under the supervision of State authorities. A Pacific Coast herd. Stock of both sexes for sale. Write for catalog, stating requirements. **WILLOWMOOR FARMS** J. W. CLISE, Owner Redmond, Wash

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Any subscriber, new or old, who sends in one two-year subscription at \$1.00 can have his own subscription extended two years by sending in 75c.

Any subscriber, new or old, who sends in two two-year subscriptions at \$1.00 each, can have his own subscription extended for two years by sending in 60c.

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Five two-year subscriptions, new or old, will be furnished in clubs for \$4.00.

If you approve of the valuable work that the JOURNAL is doing in behalf of better breeding and handling of farm animals, just speak to a few of your friends and neighbors about their subscriptions and take advantage of any of the above offers.

The Live Stock and Dairy Journal
SACRAMENTO, CALIFORNIA



INTERIOR OF KUPERUS COW HOUSE, MARSSUM, FRIESLAND.



THE LEADING HOLLAND SIRE.

once inside you can readily understand this preliminary procedure—it is as clean as your parlor. When the cows are in for the winter, the floor is scrubbed on hands and knees once each month and swept every day.

Thus it can readily be seen that prevailing conditions point to a steady, natural development of the great black and white breed. Feeding is thoroughly understood, the animals getting a good balanced ration during the winter, but in summer (from May to November) the cattle are never stabled and consequently are given no grain. Forced feeding has never been emphasized (with the result that three-teated cows are very scarce), but some excellent official year records are made. The seven-day test is not used. In 1897 the present system of official testing was inaugurated and it is conducted upon the same principle as our semi-official test. Once every two weeks a certain milk controller weighs and takes a sample of the milk of each cow for two consecutive milkings. This sample is taken to the local co-operative creamery or butter factory, where it is tested for butter fat—the



THE GREATEST SHOW BULL IN HOLLAND.

milk is all paid for according to the percentage of butter fat. In addition the farmer gets back gratis 70 per cent of whey and 12 per cent of butter milk, both of which are used to good advantage in raising calves.

These official records are all filed in the secretary's office, where, at a glance, may be seen the production of any cow since first coming to milk. No test is conducted for longer than 330 days, for they maintain that no cow should remain in milk for a longer period. The highest record cow is Schoon Rier II, owned by R. J. Palma, Lieve Vrouwen Parochie. At five years of age she produced 8,544 kg. milk (18,796 lbs.), 362 kg. butter fat (913.96 lb. butter. Average per cent fat, 3.89, in 328 days. At first glance this is a very ordinary record, but when we consider that she was only milked twice a day, only given ordinary care in winter and did not consume an ounce of grain in summer, it takes on a different aspect. What record would such a cow as that make if handled by some of our experienced testers.

The type represented by Friesian cattle is ever a source of pride, and the Dutch must be complimented on the high standard they have maintained. This has been made possible by the system of registration, as every animal must score 70 points or more besides coming of herd-book ancestry, before it is accepted for registration. Until recently an auxiliary herd book has been kept in which an

offspring of a red and white Holstein might be registered providing it scored 75 points or better.

The scoring table is as follows:

Head (form, eyes, nose, horns, neck, shoulders.....	8
Chest	10
Back, ribs, flank	8
Loins	8
Hips	12
Thighs	6
Legs	6
Tail	4
Udder, teats, milkwells.....	20
General appearance, skin, hair	18

This scoring system has been in use for over eight years and certainly has proven very successful. A male is scored at one year of age, while a female is considered sufficiently developed at the age of two years and eight months to undergo this examination.

One cow was awarded 93 points, the highest mark ever given. This method has exerted a wonderful influence on individuality, and has minimized the number of culls that otherwise would have existed.

If an animal is passed, a registration number is of course given, which is cut on the inside of each horn. On the back of the horn the figure of a lion is impressed and this symbol must always accompany the number to make it official.

One thing further I wish to mention, and that is "color." In looking over several large herds I was impressed by the absence of light colored animals. A great majority were more black than white. Upon asking the reason for this I was told that one of the best markets for their cattle was South Africa, where a white animal was not wanted because they could not stand the intense heat as could the black.

Holland has been torn from one end to the other by the ravages of the dreaded hoof and mouth disease. This is now quite under control, but many evidences of its ruin are still frequent. However, the time is not far distant when importation can again be made, and I anticipate great results when the type and quality of Holland cattle are combined with the producing ability of ours in America.

BUYER OF TUBERCULAR CATTLE IS LOSER.

The Live Stock and Dairy Journal: Tuberculosis in cattle has lately been called to our attention through the daily papers making mention of the fact that Dr. L. C. Kigin, State Veterinarian of Nebraska, has placed in quarantine more than 200 cattle recently shipped into Nebraska from Illinois and Wisconsin. This is going to be a serious loss to more than one party in the transaction. The facts are that there are downright crooks



Save the Cost of a Silo

and increase your milk production.

—provides an all-the-year succulent feed, containing more than five times as much nutriment as silage, greater digestibility, and in addition it is clean, bulky and palatable.

GET MORE MILK — INSTANTLY

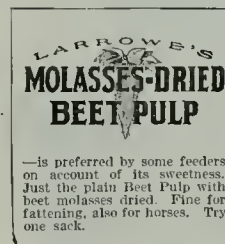
When you start feeding Larrowe's Dried Beet Pulp you don't have to wait a week or a month to see results. You get an instant increase—from 1 to 5 lbs. more milk per cow a day.

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THREE WILLOWMOOR AYRSHIRES FOR HAWAII.

At the left, Willowmoor Nina. In center, Willowmoor Buntie B., champion two-year-old at Pacific International, 1913. At right, Peter Pan 8th, a son of Beuchan Peter Pan, grand champion Ayrshire bull in Great Britain and the American National Dairy Show. These fine Ayrshires were purchased recently by Mr. George Cooke, Hawaiian Islands, from Willowmoor Farms, Redmond, Washington.

engaged in the shipping and selling of dairy cattle. These people go to the extreme of furnishing fraudulent charts with the animal, signed by some veterinarian as crooked as the dealer. Your readers should be warned to be on the lookout. If one contemplates buying dairy cattle, especially in any numbers, it is advisable to take the matter up with the State Veterinarian. He has the names of many of these crooked dealers and veterinarians and may be able to save you lots of money and trouble. There are plenty of reputable dealers in dairy cows doing business, and it will pay the buyer to know positively with whom he is dealing before he parts with his money. Tuberculosis in cattle is a serious menace to health and should be given more attention by both State and municipal authorities than has been given. It has been repeatedly proven that cows having tuberculosis have transmitted the disease to human beings through the medium of milk.

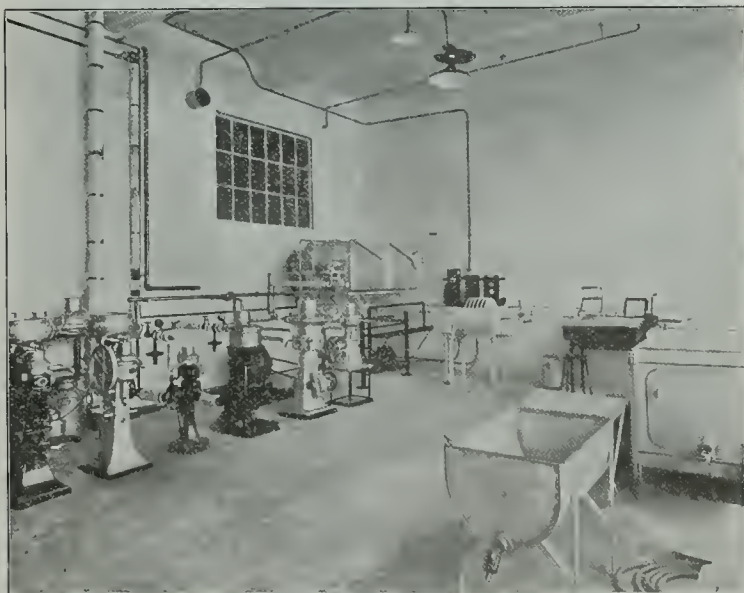
We regard it as highly important that all cows from which milk is used for human consumption be tested for tuberculosis. If you own a cow and she reacts to the test have her sent to the packing-house at once, and if the disease is in the first stages the owner will get full beef value for the cow.

There is no profit in ignoring the

fact that if one has diseased cows in the herd they are a sure source of infection for the healthy cows, as well as being hard keepers. A case has recently been tried in court where a farmer sold a tubercular cow to the butcher, the butcher prepared the same for sale, and both were found guilty and fined \$250 each.—D. K., Sacramento County.

(There is no question but that the laws governing the sale of tubercular cows should be more rigidly enforced, and that summary justice should be meted out to the crooked dealers and veterinarians who connive in such transactions. Many a poor man has been reduced to debt through buying diseased cattle that were supposed to be "inspected" and "tested." The responsible parties to such a transaction deserve less leniency than the burglar and strong-arm man. While the Journal has never had occasion to follow up the practices of any particular dealer in California there was one flagrant case reported to us about one year ago. At that time a dealer, who has since gone out of the business, was reported as openly offering to purchase tubercular dairy cows. It can not be too strongly urged upon buyers of dairy cattle to insist that they be tested for tuberculosis before being accepted, and it is equally important that they be tested by a veterinarian of unquestioned integrity.—EDITOR.)

A UNIQUE CREAMERY



In Poughkeepsie, New York, overlooking the historic Hudson River, there is located a unique creamery.

Its walls are of concrete and its interior is clean, bright and cheerful, and flooded with direct sunshine. It is equipped with the most modern machinery, and in addition to cooling vats, pasteurizers, Babcock testers, etc., it also includes the necessary apparatus for making chemical analysis, acid determination, bacteriological investigation, and is equipped with special apparatus designed particularly for making delicate tests.

Although the amount of milk received each day is greater than that taken in by many creameries throughout the country, it is unique by reason of the fact that it is probably the only creamery in the United States where practically all the milk is separated by hand separators.

This creamery is located in one of the buildings of the big Poughkeepsie, N. Y., works of the De Laval Separator Co., which has for years maintained a most complete and thoroughly equipped experimental de-

partment, of which this creamery forms a part.

In the effort of the De Laval Company to maintain the standard of its machines, nothing is taken for granted and all improvements or changes in any of the De Laval machines are tested under actual use conditions in the De Laval creamery. There are also a number of machines taken out of the finished stock of each day's production and tested in this creamery, thus serving as an additional check on the already very severe mechanical inspection which every machine undergoes before it is shipped from the factory.

Most of the product of this unique creamery is disposed of in the form of cream to various New York hotels, and the skim-milk is utilized in the manufacture of cottage cheese, for which a ready market is found.

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DAIRYLAND LANDS BECOMING FAMOUS.

A good artesian well is the most economical water supply available in California, but the good artesian belts are not numerous, and the flow is usually struck at a considerable depth. When the great Chowchilla ranch was submitted to subdivision it was known that artesian water could be obtained in the section, but the number of successful wells brought to flow during the past year has exceeded expectations. The most noted of these are situated on that portion of the lands known as Dairyland Farms, in Madera County, California.

One of the most important features in connection with the wells on these lands is the comparatively short distance from surface to the artesian supply. Ten wells brought in on Dairyland Farms average 246 feet in depth, and the average cost is \$431, which is a much lower average than obtains in any other section of the State.

One of the most notable of the recent wells is on the farm of M. J. Schoonderwoerd. This well is probably not excelled by any in California, both as to cost of sinking and flow of water for outlay. In this well at a depth of only 193 feet an artesian flow was encountered which is delivering close to 250,000 gallons per day. There are now about forty wells flowing on Dairyland Farms, assuring an abundant and economical water supply.

THERE WILL BE PLENTY OF GOOD ONES IN THIS SALE.

The coming breeders' consignment sale of registered Holstein-Friesian cattle to be held at Hanford, Cal., on October 28th, promises to be the biggest and best sale of its character ever held in the West.

The animals offered at this sale will be representative of the herds of the oldest, largest and best breeders in California and anyone with a knowledge of what constitutes good breeding in the Holstein-Friesian line cannot fail to be impressed with the quality of the animals consigned to this sale.

There will be granddaughters of such great sires as Pontiac Korn-dyke, the only sire who has eleven 30-pound daughters. The King of Pontiacs, whose daughters have broken 16 world's records. Hengerveld De Kol, sire of nine 30-pound daughters and more daughters over 20 pounds than any other sire. Homestead Jr. De Kol, sire of five 30-pound daughters, including former world's champion, Grace Faynes 2nd Homestead. Alcartra Polkadot Corrector, sire of the famous Tilly Alcartra, the former world's champion three-year-old and Geneso Polkadot with a record of better than 34 pounds in seven days. Paul Beets De Kol, the greatest sire of his generation. He has now 103 A. R. O. daughters, including 50 over 20 pounds in seven days. Sarcastic Lad, grand champion bull, St. Louis World's Fair and grandsire of six world's champions. Ignaro De Kol, sire of Aralia De Kol, the first 28,000 pound cow and whose daughters have made higher yearly milk records than the daughters of any other sire. Pontiac Hengerveld Parthenaea, the best son of Hengerveld De Kol, sire of the only four-year-old to make 36 pounds, a world's champion. This bull sold recently for \$7,000. Beryls Paul De Kol, one of the greatest sires of his day and sire of 42 A. R. O. daughters and 38 A. R. O. sons.

Many of these cows will be in calf to bulls whose breeding and individuality cannot be surpassed anywhere in the United States, including sons of the above-mentioned great sires and also the son of the famous Riverside Sadie De Kol Burke, the greatest milk cow of all time, her records for over 12,000 pounds of milk for

100 days and nearly 55,000 pounds for two consecutive years will doubtless stand as world's records for years to come. What will a calf sired by this great bull be worth?

At this sale those looking for future herd sires will have a rare opportunity to secure the best sons of the greatest bulls in the West and many from cows with large A. R. O. records will be offered. Among them is a son of the renowned Juliana De Kol, champion heifer at the St. Louis fair and the first two-year-old to make 22 pounds butter in seven days. She is a sister of Aralia De Kol.

Individually the offerings at this sale will be all that the most critical could demand.

The consignors are making an especial effort to make this an epoch maker in the Holstein history of the Pacific coast. They realize that upon the quality of the stock offered at this sale depends the success. That stock not up to the standard of what constitutes good breeding and good individuality would mean failure and would put the great Holstein-Friesian industry in this State back for years, that it would mean an irreparable injury to the breed. The success of their business depends upon the success of this sale and they realize their reputations and integrity is behind the animals offered at this sale.

The consignors in this sale are breeders who are in a position to know the merits of each animal offered. They will guarantee each animal to be sold as represented and buyers may be assured that they may buy feeling confident that the animals sold are just as represented.

AN EXCEPTIONAL HOLSTEIN HERD SIRE.

Colantha Sir Pontiac Aaggie 71084 is conceded to be one of the most promising Holstein-Friesian sires in service in California. He is now owned jointly by K. W. Abbott, of Milpitas, and L. A. Hall, of San Jose. His excellences are very concisely summed up in the following ten points, which his owners state as to the desirability of his offspring:

(1) His sire, Colantha Johanna Lad, for which \$30,000 was refused, has 75 A. R. O. daughters, three with world's records.

(2) His sire's dam, Colantha 4th Johanna, held the world's yearly record for many years and no cow has beaten her in both milk and butter. She was also the first 35-pound cow.

(3) His dam, Aaggie Cornucopia Pauline 3rd, as a four-year-old, made nearly 22 pounds butter in a week from half her udder.

(4) His dam's dam, Aaggie Cornucopia Pauline, made 34 pounds butter and held the world's record for seven years.

(5) His three nearest dams average 30.5 pounds butter.

(6) He is a beautiful animal, being straight, deep and wide. At three years he weighs 2,110 pounds.

(7) His daughters are in the hands of L. A. Hall, A. W. Morris and Sons, M. M. Holdridge and K. W. Abbott, where they will be given the best of opportunities to make good.

(8) Both junior championships at the 1913 State Fair were taken by a son and daughter of his, in competition with the best in the State.

(9) He is being used on cows with large official records.

(10) His calves are very uniform, being wide-hipped, straight, large and nicely marked.

In building up a dairy herd of grade cows it is best to select one breed from which to secure purebred bulls, and then stick to that breed. By so doing it requires only a few years to breed up a herd of cows that are quite uniform in appearance and that are productive according to the quality of the blood of their sires.



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Sacramento, Cal.

Farm Woman's Page

CONDUCTED BY AUNT MARCEL.

This department is conducted for the purpose of dealing in a helpful way with the many problems which are encountered by the woman on the farm. Household and home questions from our women readers are encouraged. Address all correspondence for this department to Aunt Marcel, The Live Stock and Dairy Journal, Sacramento, California.

THE FARMER'S HELPMATE.

There are a great many women who think that when they have kept a man's house, raised his children, cooked his meals, and darned his socks satisfactorily their duty to him as a wife is ended. It has, perhaps, only just begun, since they likewise owe him a sympathy with and intelligent interest in his work that will have more weight in his happiness

than do his material comforts.

There is no wife in the world that has the opportunity of entering into her husband's life as completely as has the farmer's wife, and if more of them would take advantage of this opportunity they would find not only the tedium of their own life relieved, but their husband's interest in his work greatly stimulated. Added to this is the fact that the science of agriculture is one that appeals to a great many feminine minds and is one that is making such rapid progress that it will need two heads on the farm to keep up with it. There are no more interesting subjects in the world than the study of the scientific breeding of thoroughbred stock and the study of the soil you have to handle as to its adaptation to certain products and the particular kind of cultivation it requires to obtain the greatest yield.

I am sorry to say that the number of farmers' wives who have so far awakened to a realization of their opportunities in these lines is relatively speaking small, but the few who do take advantage of them are noticeably finding an interest and stimulation in life that is keeping them young and the common complaint of the monotony of farm life is rarely heard from their lips.

A CAGE FOR THE BABY.

I recently visited a friend who has a most novel and healthful affair for her baby. It is literally a screened cage on wheels and is home made. The floor is about one foot off the ground and it is supported by four baby carriage wheels. It is three feet high inside by five feet long by three feet wide. One side is a door hung on hinges. One side is a door folded on the floor and some old sofa pillows are placed so that the baby cannot bump herself. She will stay in it happy and contented for hours, and she has all the benefit of fresh air and sunshine, while the overworked mother can feel sure that she is out of all danger and is comfortable. She can also take her daily nap in it secure from mosquitos, spiders or other insects.

PEACH PRESERVES.

Make a heavy syrup of sugar and water. Peel and halve the peaches and slice some lemons, unpeeled, which should be mixed with the peaches. Cook fruit in the syrup in small quantities until tender. Remove the first lot from the syrup and cook the second lot, proceeding as before. After all the peaches have been cooked, boil the syrup down and pour it over the cooked fruit, allowing it to stand 24 hours. Then put it all on together, boil down until it is very dark and thick. It should boil slowly and be stirred often, as it burns easily. An asbestos plate under the pot is the safest way. When it is thoroughly boiled down seal in jars.

GERMAN SWEET PICKLE PEACHES.

To one pint of vinegar add one pound of brown sugar, boil and, if necessary, skim. While it is boiling peel or brush your peaches, as you

prefer. If you brush them every particle of the fuzz must be removed and it is as much or more work than to peel them. Personally I do not consider them nearly as nice. However, that is a matter of taste, as some people like them better brushed. The peaches must be cling stones. Stick about five cloves in each peach, if they are fairly large and you like them spicy. Make bags of cinnamon, or throw the whole spice loose into the syrup. I prefer the latter way. After the syrup has boiled and been skimmed put in the peaches and simmer fifteen minutes, or until they pierce easily with a straw. It is best to cook only a few peaches at a time, removing them one by one as they are cooked enough. When all the peaches have

been cooked pour the syrup over them and stand 24 hours. The next day pour off the syrup and cook it again, recovering the peaches with it hot. The third day cook the syrup again, then put in all the peaches and heat them through thoroughly and seal.

CHILI SAUCE.

Twenty-four large tomatoes, seven medium-sized white onions, two small green peppers, ten red peppers and onions or put them through the meat grinder. Peel and chop tomatoes well, add five cups of vinegar, two tablespoons salt, one cup of sugar. Cook all until thick.

The Future Man or Woman

The food taken by the nursing mother influences the physical development of the child. Children should be fed on nothing but the most strengthening foods.

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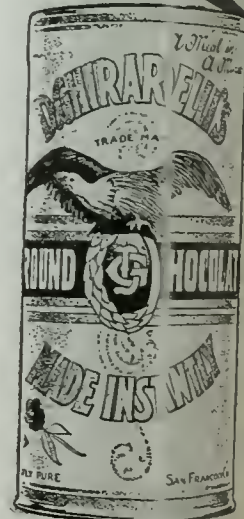
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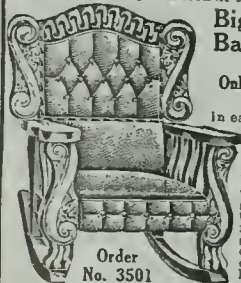
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The Live Stock and Dairy Journal

JAPANESE PLANT IMMIGRANT PROVES DESIRABLE ADDITION TO AMERICAN AGRICULTURE.

A plant immigrant from Japan that seems likely to prove a most desirable addition to American agriculture is the adzuki bean, which has been successfully grown on the Government's farm at Arlington, Virginia, and at many other places. Its most valuable feature lies in its large yield of seed. Owing to its texture the bean is easily ground into meal or flour and has proven far superior to any other bean for that purpose. Its flavor is delicate and it lacks any objectionably "beany" taste. The adzuki bean is a most popular food in Japan, and there seems no reason why a food so rich in protein should not become popular in the United States.

The first adzuki bean brought to this country most probably was the "red-seeded bean," which Commodore Perry brought back in 1854 after his famous trip to the Far East, when he first established communication between this country and Japan. It has not been, however, until comparatively recently that the bean was experimented with in a scientific manner in America. In 1891 the Kansas Experiment Station had the beans submitted to several housekeepers for trial, and their recommendations of it were in general most favorable. The United States Department of Agriculture is now giving a detailed description of its experiments with the bean in a new bulletin (No. 119), "Five Oriental Species of Beans."

The average yield per acre of the best varieties of the adzuki bean at the Government's farm has been about 25 bushels. The bean is a summer annual requiring about the same climatic conditions as the common bean. The plants are bushy in habit, growing from 1½ to 2 feet high according to variety and soil. The beans are not only prolific, but ripen evenly and do not shatter readily. It has been evident, however, that these beans cannot compete with either cowpeas or soy beans as hay producers. Their initial growth is slow and their total yield of herbage inferior.

In Japan the adzuki commands a higher price than any other bean, the varieties with maroon-colored seeds being most largely used. In every Japanese city are shops where adzuki beans and adzuki-bean meal are sold, and among the most common cakes and confections are those made wholly or in part from adzuki-bean meal.

Adzuki-bean meal is sometimes prepared simply by grinding the dry beans and then removing the seed coats with sieves. More commonly, however, a wet process is employed. The wet process seems to vary somewhat in different parts of Japan, but consists essentially of four stages:

- (1) Boiling the beans until soft, usually after a preliminary soaking.
- (2) Crushing the cooked beans.
- (3) Removing the skins by forcing the mass through sieves or by putting the bean paste in cold water, when the skins are easily separated.
- (4) Drying the bean paste.

A modification of the above process is to remove the seed coat from the soaked and parboiled beans before they are crushed. In boiling, the red color of the seed coats dissolves, and on this account the water is sometimes changed once or twice. The final product is somewhat reddish, however. The bean meal in whatever way prepared is eaten in soups and gruels of various kinds, often sweetened. It is also used for making various kinds of cakes and confections.

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FOR SALE—Pure Silver Laced Wyandottes, Buff Leghorns, Barred Rocks, Eggs. Mary Carlson, Camino, El Dorado Co., California.

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BABY CHIX AND EGGS—From grand laying strain of S. C. Rhode Island Reds. INWOOD POULTRY FARM, box 192, Folsom, Cal.

S. C. RHODE ISLAND REDS exclusively. Stock and eggs for sale in season. H. E. HILL, R. 6, Hanford, Cal.

PRIZE HOUDANS—Catalogue now ready. MRS. EMMA F. REID, R. F. D. 4, Box 54, San Jose, Cal. Life member American Poultry Association.

BARRED PLYMOUTH ROCKS—Winners at Fresno, December 4-7, 1913, first and third pens; first, second, third and fourth pullets; third and fifth cockerels. Stock for sale, also eggs from above winning females. W. L. KENNEDY, Box 20B, Fowler, Cal.

INCUBATOR CHICKS—White, Buff and Brown Leghorn, Black Minorca, White Rock. All high-class stock. Send for booklet. H. S. KIRK, P. O. Box 597, Sacramento, Cal.

R. I. REDS exclusively. Eggs \$6 per 100; Chicks \$15 per 100. Cash with order or stamp for reply. L. W. Neilsen, R2, Box 1, Petaluma, Cal.

FARMS WANTED.

WANTED—To hear from owner of good farm for sale. Send description and cash price. D. F. BUSH, Minneapolis, Minn.

WANTED—To hear from owner of good poultry farm for sale. State lowest cash price. Western Sales Agency, Minneapolis, Minn.

HARES.

THOROUGHbred BELGIANS, with or without pedigrees. THE OLD HICKORY SUPPLY CO., Dept. 11, San Francisco and Los Angeles.

POSITIONS WANTED.

A YOUNG MARRIED MAN of good character would like to farm small ranch for salary or shares. Am reliable, industrious and thoroughly experienced in California farming. References furnished if desired. H. SHELLEY, Valley R. F. D., Helena, Montana.

DATES OF AGRICULTURAL FAIRS AND SHOWS 1914.

September 8th-September 10th—Yolo County Fair, Woodland, Cal.

September 12th-September 19th—California State Fair, Sacramento, Cal.

September 12th-September 20th—Spokane Interstate Fair, Spokane, Wash.

September 21st-September 26th—Montana State Fair, Helena, Mont.

September 28th-October 3d—Oregon State Fair, Salem, Ore.

September 29th-October 3d—Fresno County Fair, Fresno, Cal.

October 5th-October 10th—Utah State Fair, Salt Lake City, Utah.

October 5th-October 10th—Kings County Fair, Hanford, Cal.

November 9th-November 14th—Arizona State Fair, Phoenix, Ariz.

November 16th-November 24th—American Royal, Kansas City, Mo.

November 28th-December 5th—In-

DAIRY AND STOCK FARMS.

Victoria, Australia, Wants Settlers

Special inducements; government land, railways; free schools; cheap irrigation; 31 years to pay for farms adapted to alfalfa, corn, grains, fruit, etc.; climate like California; ample markets; reduced passages; special excursion next November. Free particulars from P. T. A. FRICKE, Government Representative from Victoria, 687 Market St., San Francisco, Cal. Box V.

83 ACRES, out of which 65 are planted in alfalfa, irrigated; no improvements. 153 Acres, out of which 60 are planted in alfalfa, irrigated; no improvements. 56 Acres, all in alfalfa, irrigated.

These lands are situated in the famous Oak Hills Homestead Tract, two miles from Woodland, Yuba County. Soil is mostly rich bottom land. Prices range from \$150 to \$165 per acre.

A number of large stock and dairy ranches on hand in Yuba and Sutter Counties. Alfalfa land in 10, 20 and 40 acres and up.

In addition we are sole owners of Hallwood Irrigated Farms, with the best system in the country. Unsold land in this tract especially adapted for rice, which has proven to be a splendid success.

No matter what you want we can please you. State your desires and we will take pleasure in giving you thorough description.

Remember, no trouble for us to answer questions. Write today.

GOLDEN LAND & INVESTMENT CO.
Marysville, California.

FOR SALE OR TRADE—Town lots and acre tracts in Bowers' New Addition, in the fast growing town of Davis, Yolo County, Cal. Will sell, or will trade for horses and mules. C. W. Bowers, Davis.

LIVE STOCK.

CHOICE young Jersey Bulls and Bull Calves. Some good cows. N. H. LOCKE CO., Lockeford, Cal.

PUREBRED REGISTERED PERCHERONS AND BELGIANS—A few choice young stallions from 3 to 5 years old. Also 2 and 3-year-old Percheron fillies for sale. LOS ALTOS STOCK FARM, Los Altos, Cal.

HOLSTEIN BULLS—Pure bred young Holstein bulls for sale on Thompson Ranch, near Napa. For prices and particulars, address J. B. Agee, Napa, Cal.

REGISTERED GUERNSEY BULLS—Six bull calves from one to five months old. All out of first-class cows, and by the following sires: Boopee's Mar of Iowa 22134, Imported Hayes Oliver 25149, Beths Glenwood of Phehurst 17424, Rex Mar 19668, Imported Gay Lad II du Braye 12649, and Maxwell of Walter Maple 17930. Send for pedigrees and price. EDMONDOR FARM, Santee, Calif.

FOR EXCHANGE—Owing to the number of his daughters in my herd, I will exchange the registered Holstein-Friesian bull, Riverside Mona, for a bull of equal breeding. This bull is sired by Juliana King of Riverside, whose daughters are making high A. R. O. records. Address F. H. BENNETT, R1, Box 14, Placerville, Cal.

International Live Stock Exposition, Chicago, Ill.

December 7th-December 12th—Pacific International Live Stock Exposition, North Portland, Ore.

Address the secretary of any of these shows at the address given for premium list, etc.

A. J. C. C. INCREASES PRIZES FOR WATERLOO.

The American Jersey Cattle Club has recognized the growing importance of the Waterloo (Iowa) Dairy Show by increasing the prize money offered by the club to \$500 for the 1914 show. The Waterloo show is one of the leading dairy shows in America and brings out an exceptionally high-class of exhibits.

When writing to advertisers it will be appreciated by both advertiser and publisher if you start your letter: "Referring to your advertisement in The Live Stock and Dairy Journal."

POULTRY

Poultry Editor, Live Stock and Dairy Journal: I have some little ducks two weeks old. Their heads and necks are infested with lice and mites. The lice don't seem to bother the body, but stick head downwards on heads and necks. They are not small, but very large and black. The ducks are by themselves in a clean yard. I keep them in a brooder at night, but allow them plenty of freedom in the day time. I feed them on clean corn meal and grit, moistened with water. They have clean water to drink. They seem apparently well until after they are fed and then they get cramps, which succeeds in killing them. I am enclosing a stamped, addressed envelop for an early reply. I will be very thankful for any information as to cause, care and cure. Thanking you for any information you may give, I am, respectfully, A. S., Kern Co., Cal.

In a half pint of sweet oil melt or mix 10 cents' of carbolized vaseline, then use a small brush to paint sparingly over the parts where the stick-tight fleas are, but not in the eyes of the ducks. It may require a second application.

For the sand, which causes the fleas to congregate, spray heavily with a solution of a gallon of water and ten cents of common salt, boiled, and when cool add enough lime to make a heavy salt-lime wash. Spray or sprinkle. If the sand is moistened by spraying at intervals it should keep the pests down after that.

If corn meal is all you give the ducks you are feeding to cause trouble. Instead, give a crumbly

mash three times daily. What they will eat clean in twenty minutes of the following: Five parts bran, one part ground oats, two parts shorts, one part alfalfa meal, half a part beef scrap or fish meal, a little sand and a little fine charcoal.

All the greens, such as green alfalfa, lettuce, Swiss chard, etc., they will eat, which should be cut short, and it may be mixed in the mash.

Poultry Editor, the Live Stock and Dairy Journal: Would greatly appreciate the favor if you would send me the remedy for stick-tight fleas on young chicks and in the coops. The young chicks get them around the bill and eyes, and it kills them. Also would you please send me information as to what is good to make young turkeys grow. Thanking you for information, I am, subscriber.—A. M., Los Angeles Co., Cal.

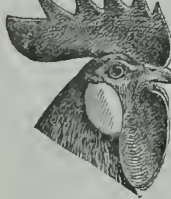
Clean up well, then spray with the following solution on the soil of runs, in houses, etc. Boil five cents of common salt in each gallon of water; when cool add enough lime to make a heavy whitewash. Then spray or sprinkle heavily. If desired, add 3 per cent of carboic acid, which must be well agitated to make it mix, with care as to person or clothes. It may require a second application, then the ground moistened a few times weekly with water only.

For the birds dissolve a small bottle of carboic salve in half a pint of sweet oil, use that solution sparingly with a small brush to base of feathers where the pests show. This should not apply to chicks, as a rule, less than two months. Other advice needed for that age.

For young turkeys feed a little and often, keep them rather underfed than all they want; give time for digestion. Mash once or twice daily of five parts bran, three shorts, two barley, two steel cut oats or pinhead oatmeal, half a part beef scrap, a little fine grit or coarse sand, a little fine charcoal. All crumbly. If milk, especially sour milk or buttermilk, so much the better to mix with. For grains half wheat or cracked wheat, and half hulled oats, always in litter. If under three months keep in till the atmosphere is warm, and shut up for night early in afternoon. Chillsness kills, and too much good eating brings death to the growing stock.

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LEGHORNS and White Rocks



I have some choice stock for sale. White, Brown and Buff Leghorn year old hens and cocks, good breeders, at reasonable prices. I can furnish birds for exhibition also. White Rocks, Fischei Strain, good birds for sale reasonable.

JAMES D. YATES, Expert Poultry Judge, Modesto, Cal.

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Big ones our specialty. Breeding Bucks and Does always on hand. GUINEA PIGS. Spotted and solid colors. FRUITVALE RABBITRY. 3227 Brookdale Ave., Oakland, Cal. LIZZIE M. NEVINS, Phone: Merritt 4716.

Incubator Chicks

White, Buff and Brown Leghorn, Black Minorca, White Rock. All high-class stock. Send for Booklet of prices.

H. S. KIRK P. O. Box 597 **Sacramento, Cal.**

DR. WHEELER'S SPECIFIC No. 1
Is THE REMEDY for contagious diseases of poultry, such as roup, catarrh and chicken-pox. Thousands of good breeders state so. I have letters to prove this, besides my many hundreds of treatments with flocks of customers. Prices, \$1.05 and \$2.10 by mail.

THE REMEDY "PREVENTION"
Is just the finest for all troubles of chicks up to two months of age, especially white diarrhoea. Prices, 50c and \$1; not stamps.

PICK OUT YOUR DRONES OF HENS
That do not lay good, by the book, "The Call of the Hen." The system is plain, simple and fine. Now sold at reduced price at \$1.50, or a year's subscription to The Live Stock and Dairy Journal and this book for \$2.00. Send orders to

R. 4, Box 281 J. E. HOLT Los Angeles, Cal.

VETERINARY

Conducted by D. S. KAY, D. V. S.

Questions relating to the health of farm animals will be answered in this column free of charge. Address all communications to Veterinary Department, The Live Stock and Dairy Journal, Sacramento, Cal.

The Live Stock and Dairy Journal—Will you define for me the sickness of my hogs? First the right hind legs become paralyzed, then they get stiff in the spine, eyes become watery, they have a cough, walk dizzy, and get very poor in three days. After the third or fourth day they do not eat.

MRS. A. W., Sonoma County, Cal.

You do not give complete information regarding feeding, duration of the attack and results, or if you have had previous trouble. I would think that the trouble is caused from having too rich a feed, such as an excess of skim milk or an excess of grain. I would suggest giving the hogs a lighter kind of feed, and giving from ten to twenty grains of mux vomica three times daily to the affected hogs that weigh 150 pounds or more. Reduce the dose in proportion for lighter hogs.

The Live Stock and Dairy Journal: I have a draft mare that has ringbone on both front legs. The right foot is more affected than the left. How can I cure her?—C. K., Shasta Co., Cal.

Blister the parts with Cereate of Cantharides every two weeks until the lameness disappears. Have the horse shod with a short toe, which may be done by rolling the toe of the shoe upwards. Have the heel of the shoe swelled, so that a mechanical roller motion shoe is made.

The Live Stock and Dairy Journal: I have a team of chunky mares around 1,200 pounds that pant during hot weather, as do 90 per cent of the horses here on the desert. They sweat very little or not at all, and pant even when standing idle. Is there anything that will relieve them?—G. C. W., Riverside Co., Cal.

If you are feeding alfalfa hay substitute oat hay if possible. For a sweat medicine give fluid extract of Jaborandi two teaspoonfuls three times daily.

For the breathing give the following: Fluid extract Digitalis two ounces, liquor Potassii Arseniti fourteen ounces. Dose, one tablespoonful three times daily.

GRANULAR VENEREAL DISEASE HAS VITAL RELATION TO CONTAGIOUS ABORTION IN CATTLE.

The United States Department of Agriculture, in co-operation with Cornell University, will shortly publish a professional paper, Bulletin No. 106, entitled "The Granular Venereal Disease and Abortion in Cattle." This disease may be defined as a chronic infection of the genital tract of cattle, manifesting itself in the form of granular or nodular elevations in the genital mucous membranes, chiefly of the vulva and less frequently of the vagina.

The importance of abortion and sterility in cows is rapidly becoming more acutely felt by breeders, according to the bulletin, and is each year playing a more serious part in the national economy. By interfering more and more with the reproductive powers of cows, these diseases exert an unfavorable influence upon the production of meat, milk, and dairy products, decreasing the supply and increasing the cost.

Unnumerable reasons have been assigned to account for abortion and sterility in cows. Abortion has been regarded as the result of blows, going, slips, falls, various feeds, water, drugs, etc., and, finally, when the

abortions are numerous, to contagion. Sterility has been attributed also to a great variety of causes—to the character of the feed or water, to poverty, and overfatness, and, as with abortion, when the cases are numerous, to contagion.

Veterinarians who have investigated abortion in cows in recent years have agreed that in a very large percentage of cases it is due solely to contagion.

The report then gives, in detail, the results of a large number of examinations of live cattle, supplemented by a large number of post-mortem examinations at slaughter-houses. These examinations have shown the granular venereal disease to be present in a large number of cases of abortion.

The conclusions of the author as to the effect of this disease are as follows:

Methods of Combating Abortion.

The granular venereal disease of cattle is, so far as known, universally distributed. From clinical observation it has a vital relation to contagious abortion. It is incurable in the present state of our knowledge, but may be greatly decreased in virulence.

The ordinary if not sole avenue of the entrance of the infection of contagious abortions is the genital canal, and the invasion antedates the sealing of the uterus, which ordinarily occurs within 30 days after conception.

In the present state of our knowledge little or nothing can be done to prevent abortion once the pregnant uterus is sealed and the infection of contagious abortion exists within the hermetically sealed cavity.

By systematic disinfection of the genitalia immediately following abortion or premature birth, and also in retained afterbirth and kindred infections of the uterus, the affected animals may be largely guarded against future sterility and abortion. It is even more important that the vagina of heifers, whether virgin or previously bred, and cows shall be systematically disinfected for a period before and after breeding, until conception is assured.

It is equally important that the genital organs of breeding bulls be kept clean by regular disinfection, including washing immediately prior to and after service.

Most important of all, breeders of valuable cattle should institute definite, energetic and permanent efforts to guard new-born calves simultaneously against the three great dairy scourges—calf scours and pneumonia, abortion and sterility, and tuberculosis.

Plan for Breeding Sound Animals.

The following are the author's recommendations for the breeding of sound animals:

We would outline the following plan for the breeders of pedigreed and valuable dairy cattle with a view to the production of cleaner and more efficient herds.

1. The construction or arrangement of independent maternity and calf nursery stables embodying all modern requirements for ventilation,

Don't put off the buying of a purebred registered sire because of a few dollars difference in price between him and the scrub. Every extra dollar invested in a purebred sire, if his price be based on quality, will save many dollars in feed bills to produce the same amount of gain, whether it be meat, milk or butter.

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LOSSES SURELY PREVENTED by Cutter's Blackleg Pills. Low-priced, fresh, reliable; preferred by Western stockmen, because they protect where other vaccines fail. Write for booklet and testimonials. 10-dose pkge. Blackleg Pills \$1.00 50-dose pkge. Blackleg Pills 4.00 Cutter's Blackleg Pill Injector 1.50

Discounts: 250 doses, 10 p. et.; 500 doses, 20 p. et. Use any injector, but Cutter's simplest and strongest. Every package dated, unused pills exchangeable for fresh after date on package. Do not use old vaccine (on 2 or any other), as it affords less protection than fresh. Insist on Cutter's. If unobtainable, order direct. Send check or A. O. - we pay charges and ship promptly. THE CUTTER LABORATORY, Berkeley, California.

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We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

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BAGGAGE CARRIED ON ALL TRAINS

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California
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Southbound.	Leave	Arrive	Arrive
No.	Sac'm'to	Lodi	Stockton
7	7:10a	8:45a	9:00a
17	9:10a	10:50a	11:05a
23	10:15a	11:45a	12:05p
29	12:15p	1:50p	2:05p
35	2:10p	3:45p	4:00p
41	4:10p	5:50p	5:05p
47	6:20p	7:53p	8:10p
	9:00p	10:34p	10:55p

Northbound.	Leave	Leave	Arrive
No.	Stock'tn	Lodi	Sac'm'to
4	6:00a	6:00a	7:55a
10	7:45a	8:00a	9:35a
16	10:00a	10:05a	11:45a
22	12:05p	12:20p	1:55p
28	1:45p	2:05p	3:35p
34	3:45p	4:05p	5:35p
40	5:45p	5:05p	7:35p
46	8:30p	8:40p	10:20p

STOCKTON-LODI SERVICE.

Leave Stockton, A. M.—6:10, 5:05, 7:00, 8:00, 9:00, 10:05, 11:05.
Leave Stockton, P. M.—12:15, 1:10, 2:00, 3:00, 4:05, 5:05, 5:05, 7:10, 8:30, 9:55, 11:20.
*Daily except Sunday.
Leave Lodi, A. M.—12:05, *6:05, 7:00, 8:00, 9:00, 10:05, 11:05.
Leave Lodi, P. M.—12:20, 1:00, 2:05, 3:00, 4:05, 5:00, 5:05, 7:00, 8:40, 9:10, 10:37.
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light, heat, convenience for disinfection, and ample facilities for the exclusion of flies. The stables should provide sufficient individual stalls for all calving cows and individual stalls for calves until at least three months old.

2. A cow which is about to calve should be well cleaned and her posterior parts disinfected, after which she should be placed in a clean stall some days prior to expected parturition. Pending parturition the stall should be kept scrupulously clean and well disinfected. The tail, vulva, buttocks and udder should be disinfected twice daily. In order to avoid the danger of infection to the calf while passing through the vagina of the cow during birth either by the infection of white scours, the granular venereal disease, or other malady, the vagina should be irrigated daily with a mild disinfectant such as 0.5 per cent Lugol's solution. Such attention to the vagina also tends to carry away any infections within the vagina which immediately after the opening of the cervical canal of the uterus at the time of calving may otherwise drop into the uterine cavity and there establish disease.

3. When the calf is born it should be received upon a clean antiseptic sheet and at once carried to a clean calf stall and rubbed dry. If it is desired to allow the calf to remain temporarily with the cow, great care should be taken to see that the bedding is kept clean.

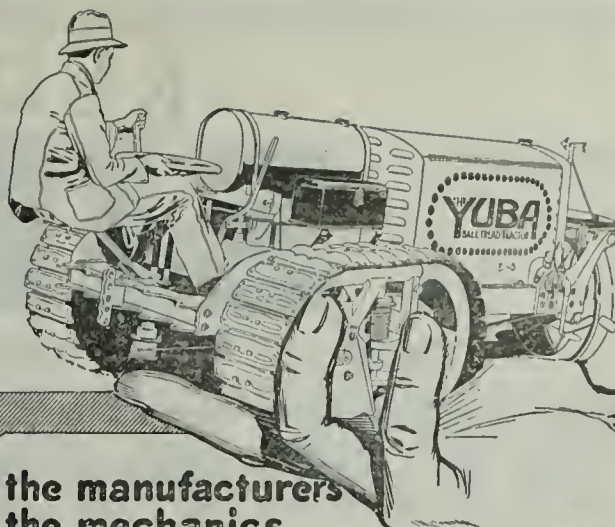
After the calf has been dried, if not earlier, the stump of the navel cord should be disinfected. It should not be ligated. Prepare a warm 1 to 1,000 solution of corrosive sublimate, fill a goblet or cup with it, and, having the calf held in a standing position, press the vessel against the floor of the belly so that the stump of the navel cord is submerged in the disinfecting fluid. Retain it in this position for at least ten minutes. Immediately afterwards dust the stump of the cord over liberally with a disinfecting desiccating powder, as alum and camphor, and repeat every 30 minutes until the stump is dry.

The body openings (mouth, nostrils, vulva of heifer, and sheath of bull calf) should be disinfected with a 0.5 per cent Lugol's solution.

4. Prior to drawing milk from the dam or other cow for feeding the calf, or permitting the calf to suck, the udder and adjacent parts of the cow should be thoroughly disinfected. The milk should be drawn in a sterile vessel under the strictest cleanliness. If the milk is from a cow not known to be free from tuberculosis, it should be sterilized before feeding. Individual feeding vessels should be used and regularly sterilized.

When calves have reached three months of age, it may usually be fairly determined if they are free from disease, in which case they may be handled in groups. These, however, should be kept as small as economically practicable until the heifers have calved and are ready for the dairy. Even then the larger the number of animals in one stable the greater the risk of infection and the more destructive will it be if it gains entrance.

5. When breeding time for the heifer grown under the foregoing conditions is approaching we would advise that her vagina be douched once daily for at least three weeks before breeding, at first with 0.5 per cent Lugol's solution, and thereafter each second day with a 0.25 per cent solution. The douching should extend over at least one estrual period, or 21 days prior to breeding, and followed for an equal time after breeding, or until it is determined she is pregnant. The bull should preferably have been grown in the same manner as the heifers he is to serve and his genitals douched in a similar way.

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the mechanics
the machine**

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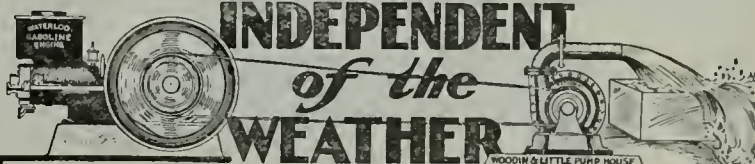
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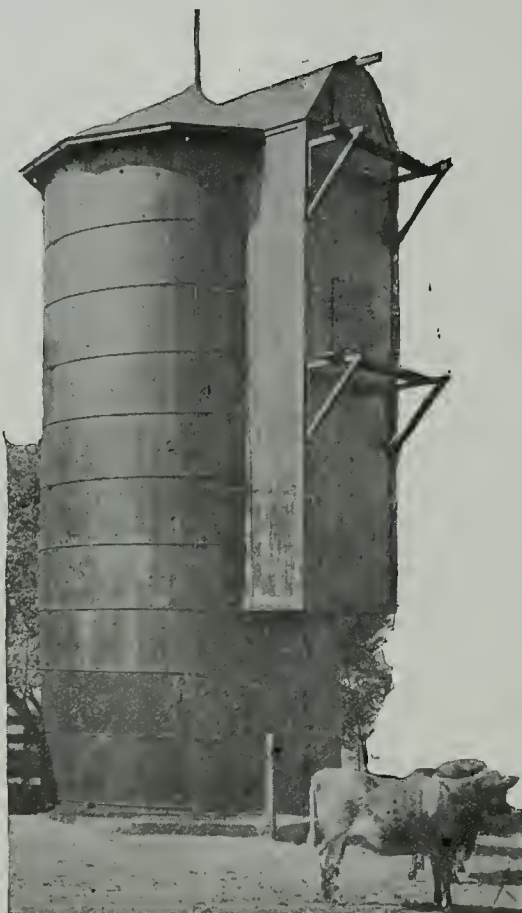
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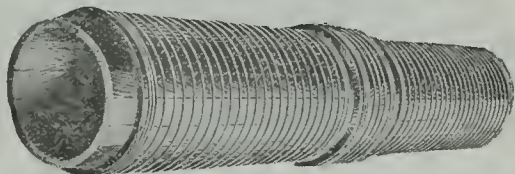
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FOR BREEDER, STOCKMAN, DAIRYMAN, POULTRYMAN and FARMER

Thirteenth Year

OCTOBER 1914



Photo by McCurry.

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A COMMON MISTAKE.

How often we see a man going into the dairy business making the mistake of buying a cheap, unproductive bull to head his herd. It is had enough for the owner of a grade dairy herd to fall into this error, but is a thousand times worse for a buyer of registered purebreds to do it. If a man is to increase the production of his purebred herd, and thereby do his part in raising the average production of our dairy cows through the richer blood of the bulls he sends out, he can reasonably hope to make such improvement only by using a bull whose dam and more remote female ancestors have records for greater production than the cows with which the bull is mated. The men who recognize this fact and act accordingly are all too rare, and our dairy industry is thereby greatly restricted in profit and progress toward greater production is retarded.

In a public sale buyers will frequently pay from \$300 to \$500 per head for females without a murmur, and then turn right around and pick up a bull for a couple of hundred dollars and think that they are going into the breeding business right. If a man buys ten head of registered cows and pays \$4000 for them, and they are the kind that are worth that money, and he then buys the kind of a bull that can be bought for \$200 to mate with them, he has discounted the price of his cows at least \$1000 before they ever leave the sales ring, for he will be breeding backwards, not forward.

Buy good cows. It is the only sensible thing to do. And then, in the name of horse sense, or bull sense, buy a bull that will be fit to mate with them. If you make a \$4000 investment in ten cows and a \$200 investment in one bull you are simply trying to make \$100 worth of blood balance \$2000 in the first crop of calves. It can't be done.

LARGE HOG FARMS.

We need a great deal more pork production in California, and it is gratifying to note the attention which the industry is receiving at the present time. There is one development which opens up some thoughts that may perhaps be expressed. We refer to the inclination of large land owners, without experience in hog raising, going into the business on a large scale. During the past two months we have been called upon by at least a dozen different companies and individuals to put them in touch with growers who could supply them with from 100 to 500 sows each. In no instance have we been able to find out how well equipped these men are to handle breeding herds of such size, and we wonder if any of them quite realizes what it means to have even 100 sows farrowing within a period of two or three months. There seems to be no reason why hogs cannot be successfully raised in large numbers where the sow herd is composed of 100 head and up. In fact, it is being done in the State at the present time, but all these men who are going into the business on a large scale should bear in mind that the pigs must be allowed to live, and to secure a good percentage of pigs raised it is necessary to have buildings and proper attention at the farrowing season.

IT DOES NOT PAY.

public sales of registered animals in California, principally because the breeders of the State have not sufficient surplus to organize sales.

What sales have been held have proved to be very satisfactory when the proper kind of stock is offered. It must be borne in mind by every breeder who looks at the public sale to dispose either of his surplus or the dispersal of his herd, that the day has passed when stock can be sold profitably in a California sales ring "at the end of a halter." Regardless of the fact that there is a very strong public demand for nearly all classes of registered farm animals, the demand is not so overpowering that prospective buyers are going to overlook conspicuous evidences of fault and even disease, especially when the seller declines to make any kind of a guarantee. The breeder who will not guarantee the health and soundness of the animals he puts into a California sales ring at this or any future time may expect a good measure of silence on the part of those who might be bidders.

ANOTHER STEP FORWARD.

The 1914 California State Fair showed evidences of another great stride forward in animal husbandry in this State. A conspicuous feature was the strength of the beef cattle show, and the very great interest shown by the public in these exhibits. The man who farms comparatively small acreage is beginning to take a more intelligent interest in the possibilities of beef production, and this coupled with the advancing interest of large operators in the securing of better bulls makes the registered beef herd of today a center of great attraction.

The dairy exhibits were of exceptional quality and showed substantial improvement over last year. The interest in this class of stock is one of the most notable indications of the change which has been worked in California agriculture within the past five years, and is just a promise of what the State Fair dairy division will be in a few years when we have more adequate show room.

All classes of live stock were in great demand and the live stock show was easily the feature of the whole fair.

VOTE FOR STATE FAIR BONDS.

To those who visited the California State Fair this year it is not necessary to call attention to the need of improvements, but to others who did not visit the fair it is not known how completely our exhibits have outgrown the antiquated buildings and equipment at Agricultural Park.

There is not a single department of the California State Fair that has sufficient space and housing to properly show its exhibits, and the confusion caused by this crowded state of affairs is trying to every official of the fair, and every exhibitor, and causes a considerable measure of inconvenience to visitors.

In our opinion there is no economy in trying to build up Agricultural Park on the installment plan. We would have nothing but a patchwork arrangement under such a plan. What we need is a sufficient sum of money available in one lump sum to permit a plan of the whole to be laid out and the buildings and passages built accordingly. We have stated in these columns that we believed one million dollars was not too much for the State to spend in the development of Agricultural Park, and we are still of the same mind. The amount asked of the voters this year at the November election is considerably below that sum, however, and Proposition No. 37 on the November ballot provides for the issuance and sale of \$750,000 worth of State bonds, payable in fifty years, and bearing interest at 4 per cent.

We believe that this is one of the most important bond issues that voters will be called upon to decide, and in order that the great agricultural resources of the State may be assured of a suitable and permanent place for the exhibition of their products we urge upon every reader the desirability of voting for these bonds in November. Look for this on your ballot, and put the cross in the right place:

37	For the State Fair Grounds Bonds.—This act provides for the issuance and sale of State bonds in the sum of \$750,000 for improvement of the State Fair Grounds at Sacramento, payable in fifty years, and bearing interest at four per cent.	X
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PERSISTENCY PAYS.

A man may engage in almost any industry and become successful if he will use common sense and develop capacity for sustained effort. A notable illustration of what a persistent man has achieved with beef cattle and hogs is illustrated by "The Breeder's Gazette" in the story of a man now 81 years old, and who has just now sold his crop of steers and hogs and bought feeders for next season. This man started with a modest \$2,000, which he secured in the California gold fields. Going back to the Middle West he bought some land and began the feeding operations which he has consistently followed up to the present time, and it is estimated that he is now worth \$150,000. The outstanding fact about this man's experience is that he went right ahead in a straight line through good years and poor, sticking close to his original idea and not being sidetracked over a prospect of a poor year now and then. His life and achievement is a mighty good proof that old General Average will bring success if properly outfitted with common sense and persistent effort.

A MOVE IN THE RIGHT DIRECTION.

The California Breeders' consignment sale of registered Holsteins, to be held at Hanford on October 28th, is of more than passing importance, and it will mark a new development in public sales of Holsteins in this State. The fact that some of the best breeders in the State are consigning, and that all stock sold will be absolutely guaranteed is ample protection for those who buy. While it is quite common to claim each sale as "the greatest ever held on the Pacific Coast," we believe that this is unquestionably the greatest offering of Holsteins offered at a public sale in California. There will be heifers in the sale that could not have been bought at private sale even until recently, and they are bred to at least two of the most richly bred milk and butter bulls on the Pacific Coast. There has never been an opportunity before to secure such stock in the State, either at private treaty or public sale.

A feature of the sale will be quite a large number of bulls out of dams that have made around 700 pounds of butter in one year under semi-official test. This class of bulls has never before been offered in a California sales ring, and it will be an opportunity that the dairyman or breeder can not afford to overlook.

A BETTER STATE.

Without belittling in any way the great horticultural and viticultural industries in California, they alone could never have made the State what it is today as a producer of wealth. The spread of animal industry in its various forms has been the great factor in putting California upon a cash basis, and the influence of the dairy cow alone has been felt in every channel through which money passes. It seems certain that the future of California's live stock industry is larger than even the most sanguine of us can realize. Favored by nearly every favorable natural condition it only remains for man to do his part.

HEWITT CONSIGNS SOME CHOICE COWS.

Geo. S. Hewitt has consigned some high producing cows to the California Holstein Breeders' sale to be held at Hanford on October 28th. All of these cows, with the exception of two heifers, have given from 70 to 80 pounds of milk per day on dry feed, and some have given as much as 23,000 pounds during a single milking period. These cows are mostly granddaughters of some of the noted sires of the breed, and are all bred to Jetske of Oakwood Romeama, a fine individual full of dairy quality. He is a son of the \$5,000 imported bull Jetske Zwarthak, who was never beaten in the show ring.

Another good one in the Hewitt consignment is Zozo Colantha of Sunnyvale. He is a good, straight square individual, out of a dam that has tested 5.4 and nine months after calving is giving four gallons of milk.

A USEFUL LIFE ENDED.

The passing of Charles Jay Welch, the pioneer breeder of Holstein-Friesian cattle at Los Banos, marks the close of a life that has been of inestimable value to the State. Mr. Welch was one of the earliest breeders of registered Holsteins in California, and from his herd there has gone out a great number of high-class animals that have done much to raise the productive capacity of California dairy cattle.

THE DAIRY

Dairy Cattle at the California State Fair

The live stock show was the predominating feature of the 1914 California State Fair, and the dairy cattle exhibits were easily the feature of the live stock show. The exhibits exceeded in numbers and quality those of any previous year, and public interest was at its highest point as evidenced by the attendance at the judging ring and the crowds that swarmed around the cattle sheds all during the week.

In point of numbers the Jerseys led all breeds, as did they also in number of herds represented.

C. P. Hembree of Oregon had a herd of pronounced Island type and show quality, and made a runaway of the bull classes, winning all except one first. This herd also was strong in the female classes and was beaten for the blue in only three classes, while all four championships went to this herd.

With the exception of single individuals here and there, the Hembree herd was in sharp contrast of type with all the balance of the Jersey show, and the somewhat more rugged large capacity hulls and cows in herds like those of Miller, Locke, Conant and others did not meet with the approval of the judge.

J. E. Thorp made the strongest showing of any California breeder as far as first prize awards were concerned in the individual classes. His good bull The Imp of L. won first in the two-year-old class, and his three-year-old cow Salome of Mossdale was first in her class, and later made a strong bid for championship honors.

N. H. Locke Co. was well up to the top in nearly all classes, and the get of King's Valet were in evidence all along the line.

Guy H. Miller did not fare so well in blue ribbon winners, but the type of his breed met with a popular approval that is perhaps more valuable than strictly show ring performance.

In the aged cow class he showed an individual in Amethyst of Venadera that would be a credit to any show ring.

His good bull Altama Interest was so close to the winner in his class that a little better behavior in the ring might have turned the decision in his favor.

D. F. Conant made his first showing this year, and presented a small herd that met with the approval of both judge and public. Mr. Conant is another one of a rapidly growing class of Jersey breeders who are getting somewhat away from the strictly Island type, and are breeding for greater capacity.

C. D. Hayworth made a good showing with a few head, and was a strong contender in the senior yearling bull class with Lorna's Altama Interest. This bull is out of Lorna of Venadera, the Miller cow that was awarded the A. J. C. A. silver trophy for high production some time back, and he is sired by Altama Interest, that has twice been grand champion at this fair.

Rancho Dos Rios showed a good string of young stock, and landed inside the money in a number of hotly contested classes. This is the second time the Dos Rios herd has been represented at this fair, and the improvement over the last showing was notable.

W. J. Hackett had a popular exhibit and was a contender in some of the best classes, particularly in females.

S. F. Williams had only a few head on exhibition, but made a most excellent showing for the first attempt in California. His aged bull Alva Lady La Foss Boy is a pronounced Island type, possessing some extraordinary points of beauty. Outside of the fact that this bull was among the prize winners in his class, the notable thing about him was the winning of his daughter, Mary Reusser, in the junior heifer calf class. This was one of the sweetest young things in the Jersey classes, and showed an udder development unusual in a female so young.

J. M. Bomberger, C. N. Odell and J. A. Goodall selected a mighty hot year in Jerseydom to break into the show ring, and while they did not reach the top in any of the classes, their showings were a credit to the Jersey breed, and with the foundation they have, this year's experience

The Sale You Have Wished For

You have long wished to attend a sale where the quality of the animals offered was beyond reproach and the consignors were breeders whose reputations for integrity and square dealing were unblemished, THIS IS SUCH A SALE. The consignors wish you to be emphatically impressed that there will be no by-bidding of any kind or character at this sale, and you may be assured that every bid offered will be absolutely bona fide. It is not proposed that this will be the last sale, and realizing that a satisfied customer is the best advertisement, we shall do everything in our power to please you so that you will want to buy again. We would rather that this stock sold at ten cents on the dollar than for you to question the honesty of this sale.

35 Heifers, 50 Cows, 15 Bulls Of California's Choicest Holsteins

All Tuberculin Tested

TO BE SOLD

OCTOBER 28, 1914

— AT —

HANFORD, CALIFORNIA

A FEW OF THE GOOD ONES OFFERED ARE

A 17.5 lb. three-year-old daughter of a 30 lb. cow; 2 granddaughters of the State's first 30 lb. cow, Teake Lyons 3rd; a granddaughter of Ignaro De Kol, which has made 100 lbs. of milk in one day. Granddaughters of such famous sires as Pontiac Korndyke, King of the Pontiacs, Hengerveld De Kol, Paul Beets De Kol, Homestead Jr. De Kol, Alcartra Polkadot Corrector, Pontiac Hengerveld Parthenea, Beryls Paul De Kol and others of equal note.

Many of the cows have large official records and are bred to sires whose breeding and individuality cannot be surpassed, including a son of the world's champion milk cow, Riverside Sadie De Kol Burke. The young bulls offered are an especially attractive lot, and include a son of the former world's champion 2-year-old Juliana De Kol; a son of a 779 lb. yearly record 4-year-old daughter of De Kol 2nd's Butter Boy 3rd. And a number of others out of large yearly record cows and also grandsons of some of the above mentioned sires. Owing to the large number of bulls consigned we expect them to go at bargain counter prices, and if you are looking for a herd sire, you should not fail to attend this sale.

Write for catalogue, attend the sale, and be convinced that this is the grandest lot of cattle ever offered at public sale in the West.

Col. Ben A. Rhoades
Auctioneer
LOS ANGELES, CAL.

Jas. W. McAlister, Jr.
Sales Manager
CHINO, CAL.



INKA TRITOMIA 2ND.
Grand Champion Holstein-Friesian Cow 1914 California State Fair.
Owned by James McGillivray, Sacramento, Cal.

should guide them to higher positions in future shows.

THE AWARDS.

JERSEYS.

Exhibitors.

C. P. Hembree, Monmouth, Ore.; C. D. Hayworth, Modesto, Cal.; W. J. Hackett, Ceres, Cal.; S. F. Williams, Chico, Cal.; Rancho Dos Rios, Modesto, Cal.; J. G. Stahl, Merced, Cal.; J. B. & J. E. Thorp, Stockton, Cal.; University of California, Davis, Cal.; N. H. Locke Co., Lockeford, Cal.; J. T. Miller, Chico, Cal.; Guy H. Miller, Modesto, Cal.; C. N. Odell, Modesto, Cal.; J. M. Bomberger, Modesto, Cal.; D. F. Conant, Modesto, Cal.; Eaton & Hughes, Santa Rosa, Cal.; W. W. Fliske, Davis, Cal.; J. A. Goodall, Turlock, Cal.

Junior champion bull—Rochette's Noble Fountain, Hembree.

Senior champion bull — Rochette's Noble, Hembree.

Grand champion bull — Rochette's Noble, Hembree.

Junior champion cow—Noble Peer's Jewel, Hembree.

Senior champion cow—Imp's Brilliant Spray, Hembree.

Grand champion cow—Noble Peer's Jewel, Hembree.

Bulls 3 years old or over—First, Rochette's Noble, Hembree; second, Altama Interest, Miller; third, Valet's King of Lockeford, Locke; fourth, Alva Lady's La Foss Boy, Williams.

Bulls 2 years and under 3—First, The Imp of Lockeford, Thorp; second, Panay's Gertie Lad, Conant; third, Weland's Silver Marquela, Flisk; fourth, Leda's Golden Laddie of Lockeford, Locke.

Bulls, senior yearlings—First, Undulata Prince, Hembree; second, Lorna's Altama Interest, Hayworth; third, Maiden's Fox, Miller; fourth, Pearl's Silver Interest, Miller.

Bulls, junior yearlings—First, Rochette's Noble Fountain, Hembree; second, Foxy Lad of Lockeford, Locke; third, Butler Boy Jr., Rancho Dos Rios; fourth, Rosebud's King of Lockeford, Locke.

Bulls, senior calves—First, Rochette's Noble Pearl, Hembree; second, California Peer, University of California; third, Golden Marquis 2nd, Thorp; fourth, Victoria's Lad R. S. M., Conant.

Junior bull calves—First, Noble's Golden Rochette, Hembree; second, Brilliant Spray's Marquis, Hembree; third, Olga Rhyme's King of Lockeford, Locke; fourth, Olera's Dron, Rancho Dos Rios; fifth, Warder's Teddy Stoke Pogis of Lucerne Farm, Flisk.

Cows 4 years old or over—First, Imp. Brilliant Spray, Hembree; second, Amethyst of Venadera, Miller; third, Lemola Bell, Locke; fourth, Salmuera, Rancho Dos Rios.

Cows 3 years and under 4—First, Salome of Mossdale, Thorp; second, Valet's Golden Biddy of Lockeford, Locke; third, Prince Bosnia, Hembree; fourth, Gertie's Foxy Alene, Locke.

Cows, 2 years old and under—First, Financial Prospect of Lockeford, Locke; second, Valet's Dairymaid of Lockeford, Locke; third, Lois of Valley View, Flisk; fourth, Logrero's Regina, Hackett.

Senior yearling heifers—First, Noble Peer's Golden Rupee, Hembree; second, Mermaid's Fern 2nd, University of California; third, Valet's Fresno Lemola of Lockeford, Locke; fourth, Altama's Goldie, Hackett.

Junior yearling heifers—First, Noble Peer's Violet, Hembree; second, Noble Peer's Figgis, Goodall; fourth, Porilla, Rancho Dos Rios.

Senior heifer calves—First, Noble's Alcy, Hembree; second, California Mermaid, University of California; third, Warder's Golden Lucy of Lucerne Farm, Flisk; fourth, Pegajosa, Rancho Dos Rios.

Junior helper calves—First, Mary Rucaer, Williams; second, Warder's Nugget of Lucerne Farm, Flisk; third, Iberian's Heroine, Hembree; fourth, Nadinne of Mossdale, Thorp.

Aged herd—First, Hembree; second, Thorp; third, Locke.

Breeder's young herd—First, Hembree; second, Locke; third, Thorpe.

Calf herd—First, Hembree; second, Locke; third, Rancho Dos Rios.

Get of sire, four animals any age or sex, get of one bull—First, Get of Noble Peer, Hembree; second, get of Rochette's Noble, Hembree; third, Locke.

Produce of dam, two animals any age or sex, produce of one cow—First, produce of Mermaid's Fern, University of California; second, produce of Benedita of Venadera, Thorp, third, Miller.

HOLSTEIN-FRIESIANS.

The black and white show this year was of very high quality and large in number of animals entered. The bulk of competition was between the three great herds of James McGillivray, A. W. Morris & Sons Corporation and Leland Stanford University. To those of us who have noted carefully the development of the Holstein show for the past several years, the outstanding feature of this year's show was the marked improvement in the Stanford University herd. It shows the effect of painstaking and intelligent handling during the past three years, and even in its present form could contend successfully in any show in the country.

The McGillivray herd also showed marked improvement. The great cow Inka Tritomia 2nd successfully defended the grand championship cow title for this herd, and the young stock was particularly good. The loss of a twin heifer of outstanding quality during the past season left a little break in the female classes in the herd, but there are some exceptionally good young things now coming on.

The Morris herd made its usual good showing, but the show record of this herd is quite overshadowed by its extraordinary record for milk and butterfat production, and interest centered chiefly around the great record cows.

Frank Hatch brought up a few head of good ones, and besides placing several among the winners in the show ring, made a walkaway of the 30 months class in the milking contest with the good heifer Queen Segis of Norwood.

Dr. Ben Stetson made a good showing with a few representatives of his herd, and although this was his first appearance at this fair, he showed enough to lead us to expect some good things from his herd in future.

Markofer & Latta of Pure Gold Stock Farm had only a limited number of entries, but were in evidence in all classes in which they showed.

In the aged bull class Lorena Korn-dyke was an outstanding winner, and

WILLOWMEAD HOLSTEIN-FRIESIANS



INKA TRITOMIA 2ND.
Grand Champion Cow at California State Fair, 1913 and 1914.

Herd headed by DUTCHLAND SIR KORNDYKE COLANTHA, whose sire DUTCHLAND SIR PONTIAC RAG APPLE is full brother to Pontiac Clothilde De Kol 2nd, former world's champion butterfat producer for 7 days and 1 year. Also full brother to PONTIAC RAG APPLE, the world's champion 4-year-old that sold for \$8,000.

Dam, DUTCHLAND COLANTHA MONA, world's champion 3-year-old milkster, and a granddaughter of COLANTHA 4th's JOHANNA, former world's record cow.

CHOICE YOUNG STOCK Sired BY THE ABOVE SIRE FOR SALE.

JAMES MCGILLIVRAY
Route 1 SACRAMENTO, CAL.

CHOICE YOUNG HOLSTEIN BULL

Breeding equal to any bull on the Coast. Sired by Sir Helio Hartog De Kol, and out of a choice daughter of Mercedes Bracelet De Kol, considered the greatest show cow in the United States. As a four-year-old she made 25.62 pounds butter in 7 days.

This bull is nearly all white, has a remarkably straight back and is guaranteed in every way, or money back.

PRICE, \$250.00.

AUGUST G. GREYERSEN

Mendota, Fresno Co., Cal.

Breeder of
HOLSTEIN-FRIESIAN CATTLE
Best Milk and Butter Strain.

Best Easy Feeding Big Type
POLAND-CHINA HOGS

AN OPPORTUNITY

To Secure a Splendidly Bred

Young Registered Holstein Bull

YOUR CHOICE OF SEVEN

Inspection Invited

SANTA YSABEL COMPANY

P. O. Box 87 Paso Robles, California

OUR HERD OF REGISTERED

Holstein - Friesians

IS HEADED BY

KING MEAD OF RIVERSIDE 50290

We offer a number of young bulls of exceptional merit, sired by KING MEAD OF RIVERSIDE, and out of A. R. O. cows. Also a few young bulls from dams to be placed on test this fall, which will add greatly to their value after they have left us.

We also have three yearling bulls, sired by LAKESIDE MODEL PRINCE 68712 from A. R. O. dams.

Write or visit us for any particulars.

J. H. HARLAN & CO. WOODLAND, CALIFORNIA

Sunnyside Herd of Holstein-Friesian Cattle

Sons of ARCADY PONTIAC WAYNE HENGVERVELD, Grandson of Hengerveld De Kol, and HOMESTEAD ADMIRAL MAIDA, Grandson of Admiral Walker Gelsche, for sale. All 30-pound blood.

Sons and daughters of these great sires for sale at the Breeders' Consignment Sale at Hanford, October 28th. Also some very fine cows, a number of which have good A. R. O. records. A chance to secure a foundation herd.

R. F. GUERIN, R. 3, Box 58, Visalia, Cal.

HOLSTEIN BULLS

We offer a few choice registered Holstein-Friesian Bulls out of dams with A. R. O. Ancestry close up. Write for prices and pedigrees.

THE McCLOUD RIVER LUMBER COMPANY,
McCloud, California.

MILLBRAE DAIRY HOLSTEINS

PROPERTY OF ESTATE OF D. O. MILLS

There is an abundance of the most productive Holstein blood in our registered herd of over 200 individuals.

The bulls that we offer for sale afford unusual opportunity to the dairyman and breeder to introduce more productive blood into his herd.

WE HAVE NO FEMALES FOR SALE.

Correspondence Invited.

Visitors Welcome.

14 Miles From San Francisco on Southern Pacific
or San Mateo Electric Cars Leaving 5th and Market

MILLBRAE DAIRY
MILLBRAE, CALIFORNIA

Photo by McCurry.



JULIANA DE KOL KING SEGIS.
First Prize Senior Yearling Holstein-Friesian Bull at 1914 California State Fair.
Owned by A. W. Morris & Sons Corporation, Woodland, Cal.

When writing advertisers it will be appreciated by advertiser and publisher if you start your letter: "Referring to advertisement in the Live Stock and Dairy Journal."

later was not seriously pressed for grand championship honors.

King of the Pontiacs 14th, second bull in the aged class, is an individual of remarkable size and conformation. In another year, when he has dropped down a bit in the middle, he will be a hard bull to beat.

Genesee Lad is also an individual of rare merit, but was somewhat outclassed in size and quality by the two above him.

Korndyke Pietertje of Oakwood, the fourth bull in the aged class, is a most excellent individual possessing great length, fine handling qualities, and was a contender worthy the quality of those placed above him.

The winner of first place in the senior yearling bull class, Juliana De Kol King Segis, is an individual of outstanding merit, and is backed by the highest kind of production as well. He is out of Juliana De Kol and sired by King Segis Pontiac Emperor, a three-quarter brother to King Segis Pontiac Alcartra, the famous bull in which a half interest was recently sold for \$25,000, and for whom \$100,000 has since been refused, the offer having been made by a South American government.

In the aged cow class Inka Tritomia 2nd won on the merits of her exceptional quality over a bunch of good ones. She was not entirely in her best form, but neither was the second cow Aaggie Acme of Riverside. The third prize cow, Romeo Aaggie Louise, was a strong contender and is a very choice individual.

The Morris herd showed the first winners in the next three classes, but were checked in the junior yearling heifer class when the junior champion was uncovered in the Leland Stanford University herd in Squaw Queen Johanna. This heifer is one of the best individuals that has been brought out in the black and white show for a long time. Her herd mate Durmelia Pontiac Korndyke was an easy winner in the junior heifer calf class, and is another outstandingly good one.

In the senior yearling heifer class Inka Tritomia Maid, the winner of second position, did honor to her dam Inka Tritomia 2nd, the grand champion cow. This heifer is a twin, and her sister was of even greater show quality, but died during the past season.

THE AWARDS.

HOLSTEIN-FRIESIANS.

Exhibitors.

University of California, Davis, Cal.; J. K. Fraser, Denair, Cal.; Frank Hatch, Modesto, Cal.; A. W. Morris & Sons, Woodland, Cal.; James McGillivray, Sacramento, Cal.; Pure Gold Stock Farm, Elk Grove, Cal.; Ben Stetson, Napa, Cal.; Leland Stanford University, Vina, Cal.

Junior champion bull—Prince Juliana Walker, Morris.

Senior champion bull—Lorena Korndyke, Morris.

Grand champion bull, Lorena Korndyke, Morris.

Junior champion cow—Squaw Queen Johanna, Stanford University.

Senior champion cow—Inka Tritomia 2nd, McGillivray.

Grand champion cow—Inka Tritomia 2nd, McGillivray.

Bulls 3 years old or over—First, Lorena Korndyke, Morris; second, King of the Pontiacs 14th, Stanford University; third, Genesee Lad, Stanford University; fourth, Korndyke Pietertje of Oakwood, McGillivray.

Bulls 2 years and under 3—First, Segis Pontiac De Kol Burke, Morris; second, Lad Wonder Pietertje De Kol, Stetson; third, King Korndyke Pontiac, Morris; fourth, Korndyke Pietertje Tritomia, McGillivray.

Bulls, senior yearlings—First, Juliana De Kol King Segis, Morris; second, Pure Gold Brookside Clothilde, Pure Gold Stock Farm; third, Canary Prince of the West Johanna, Stanford University; fourth, Aralia De Kol Pontiac Segis, Morris.

Bulls, junior yearlings—First, Spotland Canary of Vina, Stanford University; second, Hartog Colantha Korndyke, McGillivray; third, Sir of the Canary Band, Stanford University; fourth, Sir Hans Korndyke, McGillivray.

Bulls, senior calves—First, Prince Juliana Walker, Morris; second, Segis Creamcup Pontiac, Morris; third, California Fidessa Korndyke, University of California; fourth, King Stanislaus Hatch.

Bulls, junior calves—First, King Clyde Korndyke, Morris; second, Sir Hengerveld Orilissa De Kol, Stanford University; third, Sir Segis Pontiac Mead, Morris; fourth, Skylark Netherland Korndyke, Morris.

Cow 4 years old or over—First, Inka Tritomia 2nd, McGillivray; second, Aaggie Acme of Riverside, Morris; third, Romeo Aaggie Louise, McGillivray; fourth, Floa Bergsma Butter Girl, Morris.

Cows 3 years old and under 4—First, Leda Gerben Alcartra 2nd, Morris; second, Boweda, Stanford University; third, Diotime Clyde Korndyke, Morris; fourth, Helen Nye Skylark, Morris.

Cows, 2 years and under 3—First, Jane Netherland Segis, Morris; second, Cobossie Korndyke Queen De Kol, Morris; third, Queen Segis Hengerveld of Norwood, Hatch; fourth, Canary Saltertia, Stanford University.

Senior yearling heifers—First, Margaret Terpstra Korndyke, Morris; second, Inka Tritomia Maid, McGillivray; third, Lady Hiske Walker, Morris; fourth, Pearl Beets 2nd, Morris.

Junior yearling heifers—First, Squaw Queen Johanna, Stanford University; second, Princess Leda Hartog Inka, Hatch; third, Ethel Riverside Pontiac, Morris; fourth, heifer, McGillivray.

Senior heifer calves—First, Modesto Portia Korndyke, Morris; second, Dora Spofford Korndyke, Morris; third, Princess Autun Cornucopia, Stanford University; fourth, Agnes Parthena Pontiac, Morris.

Junior heifer calves—First, Durmelia Pontiac Korndyke, Stanford University; second, Velma Korndyke Netherland, Morris; third, Velma Netherland Korndyke (twin), Morris; fourth, Segis Contenta Pontiac, Morris.

Aged herd—First, Morris; second, Stanford University; third, Morris.

Breeder's young herd—First, Morris; second, Stanford University; third, Morris.

Calf herd—First, Morris; second, Stanford University; third, Morris.

Get of sire, four animals, any age or sex, get of one bull—First, Morris; second, Morris; third, get of Canary Johanna Victoria, Stanford University.

Produce of dam, two animals, any age or sex, produce of one cow—First, Morris; second, produce of Minnewawa Louise, McGillivray; third, Morris.



JULIANA DE KOL.

At age of 2½ years, butter in 7 days, 22.60 pounds. Milk 417.80 pounds; 30 days butter 92.47 pounds; 60 days butter 175.59 pounds; milk 3512.60 pounds; 100 days, butter 283.80 pounds, milk 5866.60 pounds. All world's records when made.

Our Consignment to the California Breeders' Sale at Hanford, Oct. 28

will include the following:

Thirteen good sound young cows and heifers, among which will be an A. R. O. daughter of a 30-pound cow, and several heifers sired by a son of Alcartra Polkadot Corrector, the sire of Tilly Alcartra, that has produced 24,048 pounds milk and 1014.59 pounds butter in 301 days. Several of these are bred to such sires as Segis Pontiac De Kol Burke, son of Riverside Sadie De Kol Burke, and King Korndyke Pontiac, one of the best bred sons of King of the Pontiacs. Their type and conformation will please you, and the calves which they are carrying will go a long way toward repaying the purchase price.

PRINCE JULIANA DE KOL WALKER, born August 5, 1913. A son of Prince Gelsche Walker, whose seven nearest dams average 29.07 pounds butter in seven days, with an average of 4.2% fat, and whose ancestry includes the greatest transmitting families known. Dam—JULIANA DE KOL, the former world's record 2-year-old (see cut), and twice grand champion cow at California State Fair. Her granddaughters have broken two world's records and rank among the breed's largest yearly producers. She is sister to Aralia De Kol and eight others whose semi-official yearly records average 21,492.1 pounds milk and 867.82 pounds butter.

PRINCE JULIANA WALKER, the handsome youngster that was awarded junior championship at the 1914 State Fair. Also sired by Prince Gelsche Walker. The DAM, Valley Mead Juliana of Riverside, is one of the best daughters of Juliana King of Riverside, and her yearly record is 16,173.3 pounds milk and 772.18 pounds butter. She and seven sisters average 16,447.3 pounds milk and 797.40 pounds butter. The quality of this youngster, together with the production and prepotency back of him, make him one of the most desirable young herd headers in the country.

LORENA RIVERSIDE KORNDYKE, son of the 1914 Grand Champion, Lorena Korndyke, a winner for four consecutive years at California State Fair. The DAM, Mary King of Riverside, is a 26-pound cow, and will produce between 800 and 900 pounds of butter this year. She is a daughter of Juliana King of Riverside, son of Juliana De Kol.

EMPEROR BERGSMA DE KOL, born December 16, 1913. Son of King Segis Pontiac Emperor, Grand Champion at State Fair of 1912. His superior breeding and the quality of his get brand him as one of the outstanding young sires. The DAM is a granddaughter of De Kol 2nd's Butter Boy 3rd (113 A. R. O. Daughters), with a record of 781 pounds of butter in one year at the age of 4 years.

The best lot of young bulls ever led into a Western sale ring. You cannot go wrong on this kind. The large number of high class females in the sale offers an unusual opportunity for the selection of foundation stock, and the character of the sires to which they are bred is a factor which should not be overlooked. The breeders contributing to the sale have not only built up herds of unquestionable merit, but their reputations for fair dealing assures you a square deal.

A. W. Morris & Sons Corporation
Woodland, California

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Herd Headed by

COLANTHA SIR PONTIAC AAGGIE

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Cows all officially tested. Buy your next Bull here, where you get the best there is.

MOORLAND FARM, MILPITAS, CAL.

K. W. Abbott, Proprietor.



LORENA KORNDYKE.

Grand Champion Holstein-Friesian Bull at 1914 California State Fair.

Owned by A. W. Morris & Sons Corporation, Woodland, Cal.

Photo by McCurry.

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Dairy Cattle at the State Fair.

(Continued)

GUERNSEYS.

The excellent showing of Guernseys was one of the most pleasing features of this year's fair. Something over 100 head were shown, representing five herds, and there was an abundance of quality in practically every class shown.

The Lathrop herd maintained the high performance of previous years, and showed consistent development in the young stock coming on.

Dr. J. W. Henderson brought a select representation from his Bella Vista herd, and besides winning in numerous other classes, brought out the junior champion bull in Wanagan Vista, a thoroughly good youngster.

W. H. Saylor showed a large representation from his herd, and it was in this herd that the senior and grand champion bull was uncovered in Tungsten. The Saylor herd also brought out the senior champion cow.

Elliott-Brant Rancho brought up a select herd from the south, and uncovered the junior and grand champion cow and the junior champion bull.

The grand champion, Princess Sequel, is one of the most pleasing Guernsey heifers that has yet appeared at Agricultural Park.

A. B. Humphrey made an excellent showing from his Grape Wild herd, and was a strong bidder for high honors in nearly all classes. In the three-year-old cow class he had an uncommonly good one in Berkshire Lassie, the second prize cow.

Ed Johnson's herd showed plenty of dairy excellence, but was not as well fitted as the other herds, and suffered somewhat in the show ring as a consequence. This herd is being steadily improved, however, and is to be reckoned with for future shows.

THE AWARDS.

GUERNSEYS.

Exhibitors.

Elliott-Brant Rancho, Owensmouth, Cal.; Dr. J. W. Henderson, Berkeley, Cal.; A. B. Humphrey, Mayhews, Cal.; Ed E. Johnson, Turlock, Cal.; C. G. Lathrop Estate, Stanford University, Cal.; W. M. Leland, Berkeley, Cal.; W. H. Saylor, San Francisco, Cal.

Junior champion bull—Wanagen Vista, Henderson.

Senior champion bull—Tungsten, Saylor.

Grand champion bull—Tungsten, Saylor.

Junior champion cow—Princess Sequel, Elliott-Brant Rancho.

Senior champion cow—Imp. Julia's Maid 4th of Baulieu, Saylor.

Grand champion cow—Princess Sequel, Elliott-Brant Rancho.

Bull 3 years old or over—First, Kitchener's Corona Boy, Leland; second, Nevada's Bartholomew, Elliott - Brant Rancho; third, Imp. Raymond IV's Island, Saylor; fourth, Polly's Glenwood, Leland.

Bull 2 years old and under 3—First, Tungsten, Saylor; second, Don Adonis of Linda Vista, Humphrey; third, Lewis's Kitchener Boy, Lathrop; fourth, Violet's Pride of Iowa, Lathrop.

Junior yearling bull—First, Quinn's Kitchener Lad, Lathrop; second, Prince Segis of Mayhews, Humphrey; third, Sally's Pride of Alta Vista, Lathrop; fourth, Edgewater's Duke, Lathrop.

Senior bull calves—First, New Grove King of Briar Bank, Elliott-Brant Rancho; second, Mable's Kitchener Vist, Henderson; third, Donaldo of Mayhews, Humphrey; fourth, Tulip's Pride of Alta Vista, Lathrop.

Junior bull calves—First, Wanagen Vista, Henderson; second, Butternut's Glendett of the Rancho, Elliott-Brant Rancho; third, Mayhew's Trusttype, Humphrey; fourth, Royal Lee, Humphrey.

Cows 4 years old or over—First, Imp. Julia's Maid IV of Beaulieu, Saylor; second, Imp. Corona of Sea View Farm 2nd, Lathrop; third, Butternut Queen, Elliott-Brant Rancho; fourth, Virgilla of Palmhurst, Henderson.

Cows 3 years and under 4—First, Saylor's Dew Drop Gem, Saylor; second, Berkshire Lassie, Humphrey; third, Lyons, Elliott-Brant Rancho; fourth, Maid of Edgewater, Lathrop.

Cows 2 years and under 3—First, Saylor's Jewelette, Saylor; second, Raymond 8th's Desire of Lewison, Lathrop; third, May Belle of Maple Lodge, Elliott-Brant Rancho; fourth, Kitchener's Corona Lass, Lathrop Estate.

Senior yearling heifers—First, Princess Sequel, Elliott-Brant Rancho; second, Lois Valentine's Lad's Lassie, Elliott-Brant Rancho; third, Richmond's Corona Lad, Lathrop; fourth, Walburga, Humphrey.

Junior yearling heifers—First, Saylor's Justinee's Anita Sequel, Saylor; second, Coto's Petite, Lathrop; third, Kitchener's Nell, Lathrop; fourth, Princess Marzo, Humphrey.

Senior heifer calves—First, Alcena's Pride of Alta Vista, Lathrop; second, Saylor's Primrose Sequel, Saylor; third, Fortunata, Elliott-Brant Rancho; fourth, Raymond's Lady Kitchener, Lathrop.

Junior heifer calves—First, Violet's Corona Lass, Lathrop; third, heifer, Johnson; fourth, Primrose of Alta Vista, Lathrop.

Aged herd—First, Saylor; second, Lathrop; third, Humphrey.

Breeder's young herd—First, Lathrop; second, Saylor.

Calf herd—First, Lathrop; second, Saylor.

Get of sire, four animals, any age or sex, get of one bull—First, get of Imp. Lord Kitchener, Lathrop; second, get of Castlettan, Saylor; third, Henderson.

Produce of dam, two animals any age or sex, produce of one cow—First, produce of Imp. Corona of Sea View, Lathrop; second, produce of Trisdalette, Saylor; third, Henderson.

DUTCH BELTED.

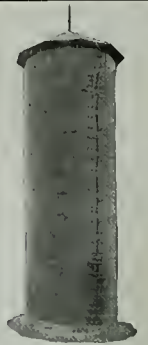
Mrs. Jennie Strader and U. G. Strader showed their herds of Dutch Belted cattle, and were as usual the objects of much attention from visitors because of the picturesque beauty of their herds.

All awards to Mrs. Jennie Strader and U. G. Strader, Ceres, Cal.

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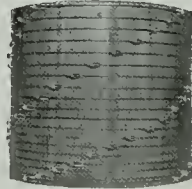
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At 1912 California State Fair won all first prizes but two, both Gold Medals and all Championships but one.

I have Young Stock of the finest quality for sale.

Write for circular and prices.

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Grand Champion Female 1912 Oregon, California and Arizona State Fairs.

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I am breeding the finest stock in the West. Write for prices and pedigrees.

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JULIANA KING OF RIVERSIDE
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HOLSTEIN-FRIESIAN CATTLE

For Sale — Six sons of TIRZAH LA POLKA PIETERTJE LAD, who has 43 close relatives who have made 30 pounds or over of butter in seven days.

CHAS. JAY WELCH, LOS BANOS, CAL.



Photo by McCurry.

SQUAW QUEEN JOHANNA

Junior Champion Holstein Cow at 1914 California State Fair
Owned by Leland Stanford Juniuoi University.

Dairy Record Comparisons

There is no question that is more often asked by the dairyman than as to which is the best breed of cattle. This question has indeed grown to paramount importance in this day of high feed and costly labor.

Leaving aside the advantages accruing from handling the breed for which one has a personal preference, there are now figures available from some of our best experiment stations and from the United States Department of Agriculture which show the average production of numbers of cows of all the dairy breeds extending over a period of years. Also from the official records of the various breed associations we are able to average the production of a large number of cows of the respective breeds, and in this way obtain a very accurate measure of the milk and butter producing capacity of the different breeds. It is the purpose of this article to give information covering the production of all the various dairy breeds with tables of comparative figures.

In an experiment conducted by the Nebraska experiment station, the greatest record made by the different breeds for two years or more was:

Holstein—Katy, 5 years, average 537.95 pounds fat per year.

Jersey—Ruth, 2 years, average 441.49 pounds fat per year.

Shorthorn—Florence, 6 years, average 346 pounds fat per year.

Ayrshire—Lady, 2 years, average 322.76 pounds fat per year.

Guernsey—Cherry, 2 years, average 317.12 pounds fat per year.

At the Wisconsin station in another test, also extended over a long series of years, the Holstein cow Johanna won with a five years' average of 480.81 pounds fat per year. The highest Jersey, Double Time, averaged for five years 459.50 pounds fat, and the highest Guernsey, Margaret, averaged for three years 423.15 pounds fat.

Friesland, where the Holstein is the exclusive breed, exported to England in 1874, besides home consumption and exports to other countries, 29,796,592 pounds of butter, or 117½ pounds for every acre of grass land, or 23,782 pounds for every square mile, averaging 205¼ pounds for each cow. The channel islands, Jersey and Guernsey, noted for their intensive dairying, exported 100,464 pounds of butter, or 1,647 pounds to every square mile, or less than one-fourteenth as much as Friesland.

At the Pan-American Exposition the Holstein herd gave 1,275.85 pounds fat, the Guernseys 1,248.64 pounds, the Jerseys 1,234.96 pounds, the Ayrshires 1,219.44 pounds and the Shorthorns 1,138.85 pounds. At the St. Louis Exposition the Holstein cow Shady Brook Gerben led all breeds in amount of butter produced.

The Bureau of Animal Industry of the U. S. Department of Agriculture, in its tests, reports that the Holstein breed average 1.61 pounds fat daily, the Jerseys 1.26 pounds, the Guernsey 1.41 pounds and the Ayrshire 1.07 pounds. The Wisconsin experimental station state that the Holsteins averaged in their experiment 555 pounds fat per year, the Guernseys 475 pounds and the Jerseys 364 pounds.

In the second Iowa dairy contest the Holsteins averaged 536.02 pounds fat per year and the Jerseys 417.17 pounds fat. In the Wisconsin dairy contest the Holsteins averaged 502.01

pounds fat, the Guernseys 421.39 pounds and the Jerseys 363.30 pounds.

The three highest Holstein records for seven days are:

	Pounds fat.
K. P. Pontiac Lass.....	35.34
Valdessa Scott 2d.....	33.50
Johanna De Kol Van Beers.....	32.05

Average 33.63

The three highest Guernsey records for seven days are:

	Pounds fat.
May Rilma	24.40
Murne Cowan	24.40
Dolly Dimple	23.16

Average 23.98

The three highest Jersey records for seven days are:

	Pounds fat.
Sophie 19th of Hood Farm.....	25.69
Miss Mary of Bleak House.....	21.71
St. Mawes Poppy.....	20.96

Average 22.78

351 Holsteins, 2 Guernseys and 1 Jersey have made over 24 pounds fat in seven days. But a negligible number, however, of the 256 Holsteins that have exceeded May Rilma's record for seven days have been tested for a year.

With about one-third as many yearly records to draw from as the Jersey or Guernsey, the Holstein breed has more cows over 1,000 pounds fat, over 900 pounds, over 800 pounds, over 700 pounds and over 600 pounds than all other breeds combined, as shown by the following figures:

	Pounds fat over—				
	1000	900	800	700	600
Holstein	2	14	37	98	290
Guernsey	1	5	12	38	141
Jersey		5	12	30	122
Ayrshire		1	5	6	14
Brown Swiss				1	8
Shorthorn					2
Red Poll.....					1

The ten highest Holsteins averaged for yearly work 989.23 pounds fat. The ten highest cows of all other breeds combined averaged 962.91 pounds. The ten highest Holstein yearly records are:

	Pounds fat.
Banostine Belle De Kol.....	1,058.34
Pontiac Clothilde De Kol 2d..	1,017.28
High Lawn Hartog De Kol....	998.34
Colantha 4th's Johanna.....	998.26
Lothian Maggie De Kol.....	990.80
Maple Crest Pontiac Flora	
Hartog	986.11
Crown Prince Josey.....	982.23
Caroline Paul Partheneea.....	966.55
Daisy Grace De Kol.....	962.80
Lindenwood Hope	931.45

Average 989.23

The ten highest Guernsey yearly records average:

	Pounds fat.
May Rilma	1,073.41
Spotswood Daisy Pearl.....	957.38
Miranda of Mapleton.....	927.16
Dairymaid of Pinehurst.....	910.67
Dolly Dimple	906.89
Imp. Beauty of Park Farm....	898.82
Jehanna Chene	863.36
Yeska Sunbeam	857.15
Azucena's Pride 2d.....	855.70
Murne Cowan	845.41

Average 909.79

The ten highest Jersey yearly records are:

	Pounds fat.
Sophie 19th of Hood Farm....	999.22
Spermfield Owl's Eva.....	993.46
Eminent's Bess	962.132
Jacoba Irene	952.154
Olympia Fern	937.133
Lass 38th of Hood Farm.....	890.56
Olga 4th's Pride	851.117
Adelaide of Beechlands.....	849.99
Rosaire's Olga 4th's Pride...	836.158
Warder's Lady	819.150

Average 909.49

The ten highest Ayrshire records



DUTCHLAND COLANTHA SIR ORMSBY 55055.
A bull of exceptional breeding with 80 A. R. O. sisters,
three of which hold world records.

OWNED BY

The Leland Stanford Junior University

We have a few of his sons, ready for service, and as he is bred only to our best cows, they are all out of heavy producing dams.

Take advantage of this opportunity and breed blood of world record stock into your herd. Our prices are reasonable.

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WHEN PRICES ARE HIGH.

Nutritious and inexpensive butter-milk cheese can easily be made at the farm or in the creamery.

The method is fully described in a bulletin just issued by the Agricultural experiment station, University of Wisconsin.

Buttermilk cheese is said to be superior in flavor and texture to cottage cheese. It has about the same food value as lean beef steak and sells for half the price. Buttermilk cheese is not only an economical but a palatable food.

Here is a recipe to follow in making the cheese from ordinary buttermilk.

Heat a quantity of buttermilk to 130 or 140 degrees (about scalding hot) and then let stand for half an hour. Most of the curd will rise to the top and the whey may be drawn off. The curd is collected in a cheese-cloth bag, and left to drain for from one to four hours.

When dry enough, the curd should be evenly salted, one ounce of salt being about the right amount for five pounds of curd. The cheese is then ready for immediate use. It may be kept in a refrigerator for a week or more without losing in quality.

Buttermilk cheese may be eaten alone, or like cottage cheese, mixed with cream. For use in sandwiches, or salads, it may be mixed with butter, Spanish pimento, paprika, chopped pickles, olives or nuts.

Two creamery men report the sale of 28,000 pounds of buttermilk cheese during the past season.

GILKERSON SECURES A GOOD HERD SIRE.

T. J. Gilkerson of Kings County purchased from A. W. Morris & Sons Corporation during fair week one of the best bred bulls that has yet gone out to head a California herd. This bull, Juliana De Kol King Segis, is a son of Juliana De Kol, the former world's champion two-year-old, and twice grand champion cow at the California State Fair. His sire is King Segis Pontiac Emperor, twice grand champion at the California State Fair, and three-quarters brother to the famous \$50,000 bull, King Segis Pontiac Alcartra.

Mr. Gilkerson's new herd sire was shown at the California State Fair this year, and was first in the senior yearling class. He combines great producing blood with a high order of show ring type, and his influence upon the dairy cattle of Kings County should be of very great benefit to the community.

MONTEREY COUNTY DAIRY-WOMAN SECURES FINE HERD SIRE.

One of the highest prices recorded for a registered Jersey bull at private sale in California was recorded when Mrs. L. J. Dobbins of Monterey County secured from Jersey Queen Stock Farm, Santa Clara County, the bull Victor Hope's Victor 117162. This good bull will head the dairy herd owned by Mrs. Dobbins, who has fitted up a very fine dairy to supply clean milk to Monterey and Pacific Grove.

HACKETT TESTING HIS JERSEYS

W. J. Hackett of Ceres, Cal., has a large percentage of his herd of registered Jerseys either on test or already through. There are some excellent producers in the herd, and it will not be long until every cow in the herd that is in milk will be a Register of Merit cow. This is the kind of work that is of immense value to our dairy industry.

The dairy cow needs roughage as well as concentrates. Do not think you can make a balanced ration without an abundance of good roughage.

average 769.43 pounds fat. The Holsteins have nine of the twelve highest yearly records, the Jerseys two and the Guernseys one. The Holstein cow K. P. Pontiac Lass made in 90 days 341.34 pounds fat, the Holstein Johanna De Kol Van Beers made in 90 days 334.73 pounds fat and the champion Guernsey May Rilma 267.31 pounds fat. The ten highest two-year-old Holstein heifers averaged for a year 736.34 pounds fat, the ten highest Guernseys 682.83 pounds fat and the ten highest Jerseys 619.76 pounds fat. The Holstein breed has eight two-year-olds with records over 700 pounds fat, the Guernsey three and the Jersey two over 700 pounds. The highest record made by a cow past 10 years of age is by the Holstein Aralia De Kol, who made at 11 years old 913.86 pounds fat in a year. The largest record made by a Jersey over 10 years old is by Sayda's Queen of Ventnor, who made at 10 years old 619.65 pounds fat. The average of the 35 Holstein class leaders for yearly production is 796.45 pounds fat, the 35 Guernsey leaders average 771.37 pounds and the 35 Jersey leaders average 711.37 pounds fat.

Perhaps the most conclusive way of determining the butter production of the different breeds is to take the average of all the yearly tests.

The summary of 1,102 Holstein yearly records:

	Milk, lbs.	Fat, lbs.
5 years or over.....	16,487.6	567.17
4½ to 5 years.....	15,362.8	525.67
4 to 4½ years.....	14,437.1	500.69
3½ to 4 years.....	13,670.8	472.24
3 to 3½ years.....	13,109.6	453.60
2½ to 3 years.....	13,184.2	462.12
2 to 2½ years.....	12,282.9	421.48

Average for 1,102.....14,415.9
Equals 3.45% fat.

The summary of 3,047 Guernsey yearly records:

	Milk, lbs.	Fat, lbs.
5 years or over.....	9,784.00	483.11
4½ to 5 years.....	9,598.44	478.31
4 to 4½ years.....	8,863.14	446.50
3½ to 4 years.....	8,610.65	434.04
3 to 3½ years.....	8,069.66	412.05
2½ to 3 years.....	7,755.55	395.98
2 to 2½ years.....	7,464.59	369.15

Average for 3,047.....8,568.86
Equals 4.99% fat.

The summary of 2,720 Jersey yearly records:

	Milk, lbs.	Fat, lbs.
5 years or over.....	9,102	478.55
4 to 5 years.....	8,232	444.55
3 to 4 years.....	7,206	385.90
2 to 3 years.....	6,492	349.35

Average for 2,720.....7,673
Equals 4.5% fat.

The summary of 1,151 Ayrshire yearly records:

	Milk, lbs.	Fat, lbs.
5 years or over.....	10,523	407.54
4 to 5 years.....	9,572	377.11
3 to 4 years.....	9,000	354.49
2 to 3 years.....	7,865	360.11

Average for 1,151.....9,287
Equals 3.92% fat.

According to these figures an average Holstein gives over 18 per cent more butter than a Guernsey, over 21 per cent more butter than a Jersey and over 38 per cent more butter than an Ayrshire and 67 per cent more milk than a Guernsey, 86 per cent more than a Jersey and 55 per cent more than an Ayrshire. These percentages, however, are only correct at the present time, as the averages of the Holstein and Guernsey breed are advancing in about the same ratio, while the average of the Jersey breed is declining.

Official testing in the Holstein breed is yet in its infancy, and if such remarkable results have been achieved in the last few years, what can we expect of the future?

HAROLD McALISTER.

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HOLSTEINS

Lake Mills, Wisconsin

Friday, October 23, 1914

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We have very frequent inquiries for a subscription price on the JOURNAL in clubs of two or more, and until now have not made a reduction. So many of our friends are sending in one or two subscriptions in addition to their own that we are now going to meet them half way.

Any subscriber, new or old, who sends in one two-year subscription at \$1.00 can have his own subscription extended two years by sending in 75c.

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If you approve of the valuable work that the JOURNAL is doing in behalf of better breeding and handling of farm animals, just speak to a few of your friends and neighbors about their subscriptions and take advantage of any of the above offers.

The Live Stock and Dairy Journal
SACRAMENTO, CALIFORNIA

Milking Contest at California State Fair

Holsteins and Jerseys had the field to themselves in the milking contest at the California State Fair this year. The fact that the Guernseys were quartered so far away from the milking barn had something to do with the lack of representation from that breed. Hackett's cow Golden Tina suffered greatly from having to be led so far through noisy crowds to be milked. It is character-

istic of this cow to drop off in test when excited, and her performance during this test is not a fair judgment of her capacity.

The result of five days' test:

Entrants: W. J. Hackett, 2 cows; N. H. Locke Co., 1 cow; Guy Miller, 2 cows; J. B. Thorp, 2 cows; C. D. Hayworth, 2 cows; Rancho Dos Rios, 2 cows; A. W. Morris, 5 cows; Chas. N. Odell, 2 cows; Frank Hatch, 1 cow.

Results of the Milking Contest.

Class	Breed	Milk lbs.	Butterfat lbs.	Owner
Class 1801 (aged cows)—				
Miss Blany	Holstein	337.3	13.352	Morris
Cobossie Buttergirl	Holstein	300.	9.808	Morris
Aggie Acme	Holstein	269.6	9.683	Morris
Goldie of Venadera	Jersey	214.7	9.521	Miller
Salumera	Jersey	209.	8.467	Watson
Philadelphia Marigold	Jersey	194.9	8.078	Odell
Golden Tiny	Jersey	180.3	7.316	Hackett
Marie's Lady	Jersey	144.1	6.056	Hayworth
Class 1802 (over 30 months and under 4 years)—				
Queen Segis of Norwood	Holstein	315.7	8.980	Hatch
Salome of Mossdale	Jersey	176.85	7.559	Thorp
Marie's Carnival	Jersey	166.6	7.503	Hayworth
Class 1803 (under 30 months)—				
Cobossie K. Queen De Kol	Holstein	227.5	6.933	Morris
Gladys of Venadera	Jersey	112.1	6.710	Miller
Sweet Tipe	Jersey	96.4	5.203	Thorp
Requeza	Jersey	101.4	5.048	Watson

WHY COW TESTING PAYS.

Cow testing shows the money makers. The best cows in many Wisconsin herds are returning a profit of \$100 or more every year. It is possible to have every cow kept do as well.

The loafers, the cows that consume more than they return, are quickly spotted and eliminated when the cow test is used. No successful merchant handles a line of goods on which he loses money; likewise, no progressive dairyman will milk a cow on which he does not make a profit. The milking of cows is a straight business proposition and no farmer can afford to spend his own time or pay high priced labor to milk cows which do not pay for their board. Let's make the \$100 return per cow our standard.

To build up a profitable herd the cow test is indispensable. It enables the dairyman to quickly get a high producing herd by selecting heifers from only the best cows. In this connection the sires that are capable of transmitting dairy quality and temperament to their offspring can be proven. The very general practice of sending mature bulls to the block, when they are just in their prime for breeding purposes, is detrimental to our dairy industry and should be stopped.

Cow testing also pays because surplus stock of both sexes sells for higher prices when buyers can see what the ancestors of these animals have done in the line of milk and butter fat production.

When using the test, farmers may know their cows as individuals and feed so as to get the greatest return for every dollar's worth of feed provided. The value of the silo in supplying fresh summer succulence during the winter months and in helping out when pastures dry up in the summer, is also shown best when cows are under test.—G. R. Ingalls, representative, Eau Claire County, Agricultural Experiment station, the University of Wisconsin.

CLEANER CREAM AIDS BETTER BUTTER PRICES.

Improperly cleaned separators are costing Wisconsin a lot of money—a fact which is particularly evident at the butter scoring contests held each month at the University Dairy School, Madison, Wisconsin.

Not infrequently a buttermaker, who takes special pains with his churnings, sends a tub to the exhibit,

confidently expecting to get a high score. But the judges find it necessary to give him a low award, and in many such cases the fault lies in the raw product. The cream was not handled properly before it reached the factory and hence the butter-maker and farmer both suffer. The creameryman, of course, can not afford to pay top prices for cream that can not be turned into a high-class finished product.

Separators and dairy utensils of all kinds, say the judges, are best washed by first rinsing them with cold water, then washing with clean warm water to which a washing powder, free from grease, has been added. All parts should then be rinsed well with boiling water and placed where they will drain well. If the pails, separator bowl, and its parts have not been properly cleaned, the surfaces will be greasy and unfit for use.

One creamery man has traced the cause of taints in his butter to the fact that many of his patrons wash their separators but once a day. He has repeatedly found that the separator, just as well as the milk pails, should be washed immediately after each milking.

THE CALIFORNIA DRAFT HORSE BREEDERS' ASSOCIATION.

A special meeting of the California Draft Horse Breeders' Association was held Thursday evening, September 17th, at the Traveler's Hotel, Sacramento.

An effort will be made to hold work horse parades in several places the coming year.

The majority of the members present felt that the membership fee of \$5.00 per year was too high. A resolution was passed favoring the acceptance of new members at the rate of \$1.00 per year until the resolution could be confirmed at the regular annual meeting.

It was also decided to hold a meeting some time next year at the exposition grounds, San Francisco.

D. O. Lively, chief of the live stock division of the Panama-Pacific Exposition, was made an honorary member.

The association also decided to hold, if possible, some time later in the year a public sale of registered stallions and mares. The time and place are to be determined by the board of directors.

Dairyland FARMS

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Think of the fertile acres in California that are without water for irrigation!

Think of the many acres that have water, but the farmer has to pay such a big price for it! And then he does not always get what his crops need.

At Dairyland there is water in abundance—all that your alfalfa or other crops require—just when they need it—even in dry years there is no scarcity—by shallow well and pump at little cost or by artesian well AT NO COST.



Picture of young alfalfa on the Dairyland farm of E. P. Moore, planted May 22, 1914—picture taken July 12th. Alfalfa measures 25 inches in height, which is a growth of almost one-half inch a day. The reason for this rapid growth is found in the fine growing climate, the good rich soil and the artesian well that flows continuously furnishing a bountiful supply of water.

Dairyland is the major portion of the great Chowchilla Rancho subdivided into small farms. The location is between Merced and Madera, on the main San Joaquin Valley line of the Southern Pacific.

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SILOS IN TEXAS

First Texas Silo Census Shows That There Are Now 8,560 Silos on Texas Farms and That 5,000 More Have Been Ordered.

We have made an estimate in our own mind that 1,000 silos will be built in California alone during the next year. We base this estimate upon the rapidity with which the truth of silo advantages will be recognized by feeders. We have some good news from Texas showing the extent of silo building in that state, and if California live stock farmers grasp the silo idea as readily as the Texans have, our estimate of 1,000 silos within the next year will fall below the actual mark; for California certainly needs silos as badly as Texas needed them and can cash in on them to fully as good advantage.

The silo in Texas promises to be as important a factor in agriculture as the plow, and the present rapid construction of the silo indicates that it will soon be as common on the farm.

On September 1, 1914, there were 8,560 silos on the farms of Texas, and their original cost was \$4,520,000, according to data just compiled by the Texas Business Men's Association. Nearly two-thirds of the silos in Texas have been built during the past year and their construction is one of the most important events ever recorded in the history of Texas agriculture. The movement seems to be just well under way, as 4,800 more have been ordered from manufacturers and will be put up in Texas before the close of the present year. Fifteen silos have been built on Texas farms every day during the past twelve months, and present indications are that this record will be greatly exceeded during the remainder of 1914.

First Accurate Figures.

Never before has a complete census of the number of silos in Texas been made and no absolutely accurate data of number are available, as the United States Census Bureau has never enumerated silos in making its decennial estimates of farms and farm conditions in this state. The absence of reliable information and the importance of the economic changes which are to follow the general use of silage in meat production and live stock raising, prompted the statistical bureau of the Texas Business Men's Association to make an exhaustive investigation and its conclusions are presented with full confidence in their accuracy. In compiling the data detailed, reports were received from ten Texas silo companies, 84 United States Demonstration Agents, 187 commercial organizations and 57 Farmers' Union locals in Texas, and the investigation included practically every county in the state. From these reports the conservative estimate of 8,560 was made for the entire state and this figure has been verified by many persons connected with the industry and familiar with the use of the silo in this state.

Average Capacity Increasing.

Every kind of silo in existence is used in Texas; the pit or underground silo predominates in the panhandle and those of cement and wood construction are popular in all other parts of the state. There are 10 factories in Texas that manufacture silos, and an equal number of foreign companies have agencies here.

From the reports furnished it is apparent that the size of the silos now being constructed are much larger than those previously built. The average capacity of the Texas silo at the present time is 120 tons; a year ago it was 100 tons, and the capacity of those to be built during the present year will average around 140 tons. Brown County has the largest silo in the state; its capacity is 800 tons. The 20-ton silo is the smallest in commercial use in Texas

and there are a number of this size in the state.

The First Silo.

When and where the first silo was built in the world is not a matter of record. However, its use is as old as agriculture itself and frequent mention is made of the silo in the Bible. It is claimed that the first silo ever built in the United States was in Michigan in 1875; the first one to be constructed in Texas is said to be in 1895. It was built by a German farmer in San Saba county.

There are more silos in South Texas than any other section of the state, the total number being around 3,300. In the Panhandle there are 1,500. The stock raising sections of West Texas are well supplied with these storages and the number in North and East Texas is rapidly increasing. Brazoria has more silos than any other Texas county, the total number being 292. Of this number 242 are within a radius of seven miles of Alvin, one of the leading dairy centers of the state.

If all the silos in Texas could be stacked on top of each other they would extend into the air for a distance of 64 miles and would be 440 times as high as the tallest skyscraper in the United States.

A Proved Success in Texas.

Although the silo is one of the oldest agencies of agriculture it was only during the past few years that its practical and economic advantages have been demonstrated in Texas. The silo has been in use in this state for fifteen years, but only became prominent in Texas agriculture about four years ago. For many years the farmers of Texas thought the silo was only useful in the northern climate and doubted the wisdom of installing them in the south. These conclusions have been dispelled from the minds of those who have had experience with the silo in Texas, as it has been proved that it is more adapted to Texas than it is to the northern states.

In recent years numerous tests of silage as a feed for beef animals, dairy cows and other live stock have been made in Texas, and these experiments have invariably demonstrated the value of the silo to Texas agriculture. The constant advance in price of farm land and the growing difficulty of profitably producing upon it has centered general attention upon these silage feeding experiments. Knowledge of the favorable results has quickly reached the Texas farmers and a rapid wave of silo building has followed.

The silo was first introduced in the arid sections of Texas for the purpose of preserving moisture in feed crops. In Brazoria and adjoining counties it performs an entirely different function. It protects the crops from excessive moisture. Some parts of this section of the state are subject to overflow and rainfall is more frequent here than in any other part of the state. The heavy dew formation in this section, too, has a tendency to render haymaking impossible on account of the moulding and deterioration of the grass before curing can be effected. Since the introduction of the silo in Brazoria county dairy cows are being fed at an average cost of \$3.50 per head per month. Before ensilage came into use the average monthly cost was around \$10.

Half Million Silos Needed.

There is one silo to every fifty farms in Texas, but to properly feed the live stock of this state there should be at least one silo on every Texas farm. There are 418,000 farms in Texas, and to equip them with silos will require an investment of



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We offer for sale bull calves of A. R. breeding on both sides. Some of the younger ones are sired by DON ADONIS of LINDA VISTA, whose dam, two grand dams and two great grand dams have an average A. R. butter fat record of 714 pounds in one year.

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ALTA VISTA HERD
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GUERNSEYS

Owned by Estate of Chas. G. Lathrop, Stanford University, Cal. Offers for sale a number of mature cows, some of them imported, bred and unbred heifers, and some choice bulls. A number of the heifers are bred to Violet's Pride of Iowa, whose grand dam has an A. R. record of 912 pounds butter fat in one year.

Inquiry or inspection invited.

\$209,000,000. This is an enormous outlay, but by proper management they would pay for themselves the first year and the saving each year afterwards would be clear profit, as there is no overhead expense in maintaining a silo.

Texas never has had a surplus of feed for any length of time and more often there is a shortage. Texas farmers buy \$30,000,000 worth of corn each year in other states and none of the feed crops of this state are produced in surplus quantities at present.

During the past decade there has been a decrease of three and one-half million head in the number of meat producing animals in Texas and our shortage of beef has materially affected the nation's meat supply. This decrease has been brought about principally by the changing of Texas from a grazing to an agricultural state and this condition will continue until a more scientific plan of producing and caring for cattle is instituted on the farm.

GUERIN CONSIGNS GOOD ONES.

There will be a very good lot of heifers in the breeders' sale at Hanford, consigned by R. F. Guerin from his Sunnyside herd of registered Holstein-Friesians. The young stock in Sunnyside herd has attracted a great deal of favorable attention from breeders generally, and some of the best of the young things will be in this sale. Seven of the heifers are sired by Arcady Pontiac Wayne Hengerveld, a consistent getter of good ones. Two more of the heifers are granddaughters of Admiral Gelsche Walker.

Among the cows consigned by Mr. Guerin are several with very creditable A. R. O. records and from good A. R. O. breeding. One of the most promising is Zampa Maud Muller, with an A. R. O. 7-day record of 22.63 pounds butter. Iola Dawn Queen has made 19.43 pounds butter in 7 days, and Precious Promise has 18.82 pounds to her credit. These three cows are sired by Captain Julip Zampa, whose sire is a half brother to Mercedes Julip Pietertje Paul, that has 66 A. R. O. daughters and 21 proven sons. The entire Sunnyside consignment is a choice lot, including some especially good bulls from A. R. O. dams.

WILLOWWOOD JERSEYS MAKING HIGH PRODUCTION.

Willowwood herd of registered Jerseys, owned by C. G. McFarland, Tulare, Cal., is making a record for high

production. Besides the considerable number of Register of Merit cows already in the herd, there are eleven other cows on yearly test. Present indications are that within the next six months there will be over twenty cows in this herd with Register of Merit records exceeding 500 pounds of butterfat, and several will be a deal over that figure.

Willowwood herd seems to have a particularly bright future, for herds with so many high producers are scarce anywhere.

JERSEY BREEDERS MEET.

California Jersey Breeders' Association held their annual meeting at Sacramento during State Fair week. There was a good attendance, and the meeting was a very enthusiastic one. J. G. Stahl started a subscription fund for special prizes for California Jerseys in the butterfat contests in 1915, and over \$100 was subscribed.

View herds for 1915 were discussed and many animals were offered to the committee from which to make their selection.

The second Jersey Futurity is now open for entrants, and applications for entry should be made to the secretary.

Officers for the ensuing year were elected as follows:

President, Guy H. Miller; vice-president, R. E. Watson; secretary, J. E. Thorp; treasurer, N. H. Locke.

Jos. Mailliard and D. F. Conant were elected to the directorate of the association.

PROSPECTS FOR THE NATIONAL DAIRY SHOW OF 1914.

The National Show of 1913 was a busy place and the writers and reporters for our dairy and agricultural press were kept on the jump to get a glimpse at everything prepared to be served at this great annual feast for the dairy industry. Well! We have more meetings and conventions, larger and more interesting exhibits in every department and a more wonderful show in every detail than 1913 scheduled for October 22d to October 31st this year. There are many surprises in store for our cattle exhibitors, as well as our machinery people, the extent and scope of the show grows hourly and those who have loyally watched the progress of the national will get some reward for their patience this year.

The world and his brother is coming to the 1914 show, and no one should overlook a date best suited



Get All the Butter Fat

To operate at **full efficiency** and deliver **all** the cream, your separator must be lubricated with an oil exactly suited to its construction. Many oils form "gum", thereby clogging the delicate mechanism of the separator, and thus causing irregular spinning of the bowl, reduction of speed and consequent loss of cream.

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is made especially for cream separators by oil experts of 40 years experience who have studied the detail construction of the separator—this in order to produce an oil exactly adapted to the purpose. Your separator will do better work, last longer and need fewer repairs if lubricated with Standard Hand Separator Oil. **No matter what you pay, you cannot buy a better oil for the purpose.** Dealers everywhere.

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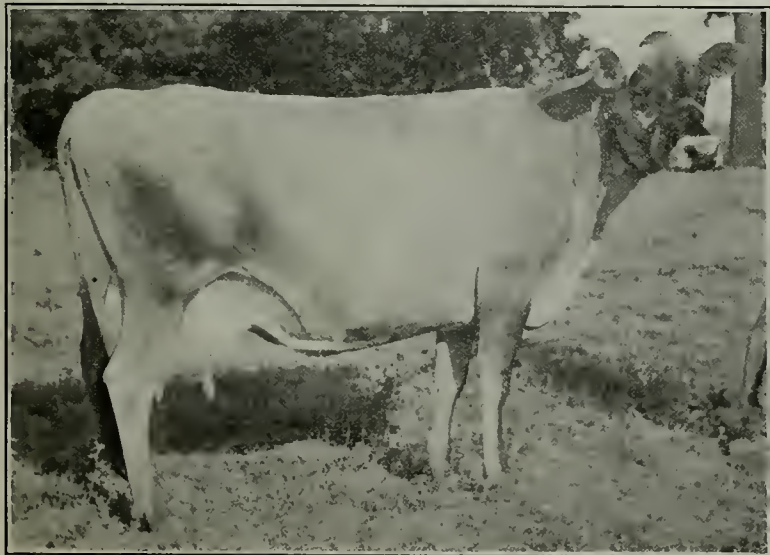
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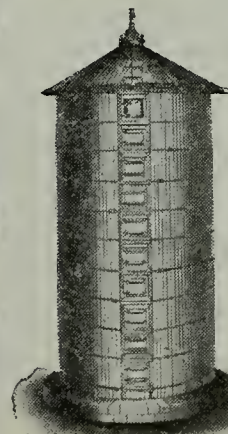
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A prize-winning Jersey cow at 1914 California State Fair.
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Perfect in Construction. Air Tight.
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Lightest running and most efficient Feed Cutter on the market, and most reasonable in price. Correspondence solicited.
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HOOD FARM BREEDING POWDER

It restores the breeding functions; corrects the irregularity of cows that do not come in season; removes the irritation and restores the organs to normal condition in cows that are constantly in season. Order today, mentioning this paper. Prices by mail, \$1.15, \$2.75 or \$5.00. Injection Tube 90c., with \$5.00 order, 75c.

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to his interests. All of the conventions of a year ago will be with us and in addition we are to have a "market congress" which will be of the utmost value to the small farmer. Our friends at Washington will have some splendid information to impart on marketing. The various cattle clubs will have their day of celebration; the milk producer and milk dealer; the creamery man and the ice cream man will have their day while the whole ten days will be loaded with every new thing in dairying that man's ingenuity has developed down to the hour of opening the show. The butter, milk, cream and cheese competitive exhibits will be bigger than ever. The agricultural colleges are preparing some extensive educational exhibits; in fact one will have to watch the press very carefully this summer to keep posted on the many new features that the 1914 national is going to spring on the public and study out the days that one will find the most going on of interest to the individual. A program will be published shortly.

MILLER JERSEYS SELL WELL.

The sale of registered Jersey cattle held at Jefferson, Ore., on September 16th, by Chas. Miller Estate, was a very successful one, and the good producing blood in the herd met with approval of bidders. The top price of the sale was obtained for the 7-year-old cow, Miss Alabel Melia Ann, that went to J. B. Hyde for \$510. The top bull price was \$300, on the 3-year-old Foxhalls' Fern Lad, bought by Frank Doerfler. The total paid for the 74 head in the sale was \$14,525, an average of close to \$200 per head.

THE GREAT POULTRY SHOW.

A poultry show will be given in San Francisco at the Auditorium December 8th to 13th, under the auspices of the San Francisco Poultry, Pigeon and Pet Stock Association. This same organization held a very successful show last year, but the coming event is to be on a larger scale. The floor space has been doubled and many new features inaugurated.

Some of the prize poultry of the United States will be entered in both the fancy and utility exhibits. Besides this there will be large exhibits of rabbits, pigeons and children's pet stock. A large space is to be given dressed poultry and every feature of this business will be shown. There will also be a free sales secretary in connection with the show and he will assist buyers and sellers of stock free of charge.



**JUDGEMENT based on
EXPERIENCE is a sure
GUIDE to success.**
Read and profit by the following

POPPY RIDGE RANCH.

Elk Grove, Cal., September 26, 1914.

De Laval Dairy Supply Company:

Are we pleased with our silo? We certainly are, and here are some of the reasons why.

It is made out of the right stuff, and in the right way for this climate. As you know, ours is the one you had at the State Fair in '13. It was moved down to the ranch and put up about October 1st. Stood empty all winter, was filled in April with alfalfa, empty by July, and filled again in September with corn. The hoops have never been touched. There isn't a check in its, nor has a single seam started.

We feed alfalfa silage three months in place of cutting and feeding green alfalfa every day. The cows milked just as well, we saved on labor, and the silo enabled us to turn into the best of feed a first cutting that, as hay would not have been worth handling.

We figure that the silo, by enabling us to preserve corn in succulent condition for winter feeding, will so balance our ration that it will not be necessary to buy any concentrates to keep our herd up to their best. Even if it cut our bill for concentrates 50% the silo will pay for itself this year.

It preserves the feed perfectly. We did not lose a particle of silage from mould even next to the doors.

We expect to fill it next spring with barley and vetch and again in the fall with corn, thus getting two crops in one season from the same land. We have not been able to do this before to advantage except with alfalfa. It this plan is carried out we shall need another silo for first crop alfalfa, and we serve notice now that the Ideal Green Feed Silo will be it.

Very truly yours,

NEWMAN BROS.

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Loleta, California.



PRINCE JULIANA WALKER.

Photo by McCurry.

Junior Champion Holstein-Friesian Bull at 1914 California State Fair.
Owned by A. W. Morris & Sons Corporation, Woodland, Cal.

Evolution of the Holstein Cow

(Written for the Live Stock and Dairy Journal by R. F. Guerin.)

From the earliest accounts of the Friesian people they have dwelt upon the shores of the North Sea and have possessed herds of Friesian cattle.

Their history commences about three hundred years before the Christian era. They then inhabited a country between the River Elms and the middle arm of the Rhine.

There is a tradition that the progenitors of present day Friesian cattle came out of India, and that the mother of the breed was as white as snow.

Two hundred years later a German tribe came out of Hesse, a district on the upper Rhine, and settled on the shores of the North Sea near the Friesians. They first occupied an island formed by the Rivers Rhine, Maas and Waal, to which they gave the name of Batavia. They were also breeders of cattle, and brought their cattle with them. These cattle were black, and it is supposed that the crossing of them with white Friesian cattle formed the foundation for the present Holstein-Friesian breed.

The first permanent introduction of Holstein-Friesian cattle to America was in 1861, by Hon. Winthrop W. Chenery, of Belmont, Mass. Then others imported stock and the first Holstein-Friesian herd book was published in 1872. Dairying then became an important industry in the Northern States, and was extended to the prairie lands of the West.

No breed ever spread with such great rapidity. Twenty-five years from the publication of that first volume it became one of the largest

and most popular dairy breeds in our country.

In Holland these cattle are known as Friesians, from the province of Friesland. In Germany they are known as Holsteins, their name being taken from the province of Holstein. American breeders secured cattle from both provinces and when the American Herd Book was established a compromise was made whereby the breed became known as Holstein-Friesians in America.

As objects of pleasure and beauty, no cattle respond more generously, or appear more picturesque on a background of green fields, and none are more emblematic of rural wealth and content.

In raising this breed of cattle great care should be used in the selection of sires. Always get the best in breeding and individuality, and in securing the very best of dams, and the progeny will always be improved. In this way the Holland dairymen have improved their cattle and made a success of it, and in America breeders have followed the same ideas thus making their cattle noted.

Not many years ago a cow that made twenty pounds of butter in seven days was a wonder. Today Holstein-Friesian cows are making from thirty to forty-four pounds of butter in seven days, in fact K. P. Pontiac Lass made 44.47 pounds of butter in seven days.

The present development of the Holstein-Friesian breed is one of the great achievements of American agriculture, and one that is constantly adding to the resources of our nation.

QUALITY IN THIS SALE.

The Live Stock and Dairy Journal: In view of the extraordinary quality of the offerings at the California breeders' consignment sale to be held at Hanford on October 28, 1914, it might be appropriate to say a few words about the opportunity which will be here presented to the breeder, both large and small, and to those who intend to start in this great business in a small way and build up a herd.

Breeders of Holstein cattle throughout the country have uniformly made money. There is scarcely an exception to this statement. I might mention on the other hand scores of instances in which men and women who have started in a very small way have made fortunes out of Holstein cattle and are now among the biggest and most influential breeders in the United States. John Arfman, in whose herd there are more 30-pound cows than any other herd in the country, started with two cows for which he paid \$250 a few years ago. His first sale of a bull calf netted him \$25. Recently he sold a calf for \$11,300 and a half interest in his herd bull for \$25,000. Francis M. Jones paid \$250 for two heifers seven years ago and sold two offsprings of those heifers for \$16,000 and now has a herd reputed to be worth \$125,000. E. C. Schroeder four years ago started with \$5,000 and last year he made seven 30-pound records, including a number of world's records. Prof. E. H. Eckles of the University of Missouri states that the present herd of Holsteins owned by the University of Missouri, numbering 35 head, are all descended from four cows which were purchased by him in 1902 at a cost of \$450. Animals from this herd have been sold for breed purposes for at least ten times the cost of the foundation stock. I might mention numerous instances along these same lines, but lack of space will not permit me. I wish, although, to give a couple of instances where cows of good individuality and breeding were at one time sold for a song and have

since broken world's records and in some cases have sold for a fortune. Johanna De Kol Van Beers sold for \$65 when a calf and not long ago she resold for \$7,000 and two of her sons brought \$24,130. Sadie Pontiac Korn-dyke bought by Mr. Salmon of Glenfield, N. Y., five years ago for \$500 and has since made the owner over 600 per cent annually for him. Right in our own state we have incidents like this. Morris & Sons bought Riverside Sadie De Kol Burke and Aralia De Kol a few years ago for a song, comparatively speaking. Both have broken world's records and a grandson of the former was recently sold by them for \$2,000 as a calf.

Banking interests realize that Holsteins are a safe and profitable investment. They are loaning money at the present time to parties who wish to purchase cattle when they are refusing to loan money for any other purpose. In the most of the Eastern states bankers are encouraging the farmers to borrow money for Holsteins. Minnesota bankers have stated that they intend to make Min-

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The Live Stock and Dairy Journal

JERSEY TYPE ————— JERSEY QUALITY

We have a few handsome, vigorous young bulls out of our best cows and sired by MERRY MAIDEN'S CONQUEST, a son of MERRY MAIDEN'S 3D SON, Grand Champion Jersey bull at St. Louis Exposition.

By owning one of these bulls you can introduce into your herd the blood of one of the best bulls of the breed.

Come and see our herd or write your needs. Prompt attention to correspondence.

B. & F. RANCH, F. O. FAZIER, COVINA, CAL.

Exceptional Opportunity TO SECURE THE TYPE, WELL BRED, REGISTERED BULL, RIOTER OF THE GOLDEN WEST

Pedigree:	Grand Rioter (57524)	Recorder (29239) Calcina (20208)	Combination 3d Brown Bessie Herotas Calcium
	Leek's Fern McPherson (176330)	Fame's Silver Pedro (40056) Dodge's McP. Pansy (174413)	Pedro's Silver Rioter Pedro's Fame Landseer Rioter Lass Marlon's Pansy

This bull is 3½ years old, a fine individual, and will make a profitable sire for some one. Price, \$400.

Willowood Jersey Farm TULARE, CALIFORNIA.
C. G. McFARLAND, Owner.



NOBLE PEER'S JEWEL.
Grand Champion Jersey Cow at 1914 California State Fair. Owned by C. P. Hembree.

SALOME OF MOSSDALE.
First Prize 3-year-old Jersey Cow at 1914 California State Fair. Owned by J. E. T. orp.

Photos by McCurry.

nesota the biggest Holstein state in the Union and will furnish farmers with funds with which to do it. Many banks have even gone so far as to buy Holsteins themselves which they distribute to the farmer at cost.

This is a sale which those looking for foundation stock cannot afford to miss. It is to be hoped that the quality of the offerings will be appreciated and that the great industry of breeding and selling Holstein cattle will be encouraged. The reputations of the consignors, which are A. W. Morris & Sons of Woodland, McAlister & Son of Chino, R. F. Guerin of Visalia, G. A. Hewitt of Hardwick and T. J. Gilkerson of Stratford, are behind their offerings. They guarantee to the public that every animal will be sold as represented and that each bid offered is a bona-fide bid. These animals will positively be sold to the highest bidder no matter how low the price. We consignors do not expect big prices for our stock. We do not expect this to be the last sale of its kind to be held and we would rather have a satisfied customer than receive a price out of proportion to the value of our offerings. If we can make money for our customers by selling them stock that will make them money we ourselves will be the gainer, perhaps not this year, but in future years. If quality and number of stock offered and honesty and integrity of the consignors mean anything to the Holstein buying public of the Pacific Coast, this sale should be a success.

JAMES W. McALISTER, Jr.

SUNNYSIDE HERD CONTAINS RICH HOLSTEIN BLOOD.

In Sunnyside herd of registered Holstein-Friesians, owned by R. F. Guerin, Visalia, Cal., is found some of the best blood of the breed.

The herd sire, Arcady Pontiac Wayne Hengerveld 63440, is a grandson of the world's famous sire, Hengerveld De Kol, that has 116 Advanced Registry daughters, eight of them having made over 30 pounds of butter each in seven days, and seventy-two of them have averaged over 25 pounds butter in seven days. The sire of Arcady Pontiac Wayne Hengerveld has 62 daughters in Advanced Registry, one daughter, Agatha Pontiac, having made 36.9 pounds butter in seven days and 140.05 pounds butter in 30 days.

Cantate Domino, the foundation cow of Sunnyside herd, was a grand animal. Her daughters and granddaughters are the best cows at Sunnyside, both in the show ring and at the pail. In 1908 she took all honors both in milking contest and sweepstakes over all breeds in the show ring at Tulare Fair. She performed splendidly for Sunnyside, winning laurels on all sides, and leaving behind her daughters and granddaughters

ters that will make Sunnyside famous.

Sacayawea 77910 and her two A. R. O. daughters, Nordica Queen and Calvia Wea Julip, are three noble cows. Nordica Queen has a 7-day A. R. O. record of 19.432 pounds butter, and Calvia Wea Julip a record of 16.252 pounds butter in 7 days. Sacayawea has milked as high as 75 pounds of 4% milk in one day and is quite an honor to the herd.

Sunnyside herd is twelve years old. Four registered heifers and a registered bull was the foundation, and by hard labor and study the herd has now been built up to 125 head of registered animals of uniformly high excellence, and including a number of very large producers.

The cows range over 180 acres of lovely alfalfa shaded by beautiful oak trees, and there is not a prettier spot in the San Joaquin Valley. Mr. Guerin places the credit for the establishment of Sunnyside as a beautiful home spot, upon the Holstein-Friesian cow, and is loud in her praises. The writer is willing to concede that the Holstein-Friesian cow had a great deal to do with the upbuilding of Sunnyside, but down around Tulare county when you speak about Sunnyside the comment almost invariably is: "Yes, Frank Guerin has certainly done wonders with that herd of Holsteins." And while we are distributing the credit we must not overlook Mrs. Frank Guerin, for be it known that she possesses a knowledge of the Holstein-Friesian breed that is not excelled by most men in the business.

GROOMS' PRIZES AT CALIFORNIA STATE FAIR.

The prizes for best kept stock and stables during fair week, with consideration for the general appearance of the exhibit were awarded as follows:

Horses—First, Dunham-McLaughlin Co.; second, T. D. McLaughlin.

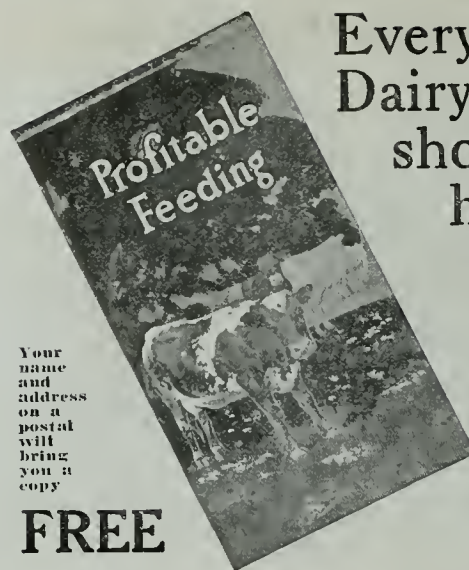
Cattle—First, Simon Newman Co.; second, Leland Stanford Jr. University.

Hogs—First, Oak Grove Dairy Farm; second, W. A. Young.

Sheep—First, Bishop Bros; second, T. S. Glide.

KAUPKE GOES TO OAK GROVE.

H. G. Armstrong, proprietor of Oak Grove Farm, Woodland, Cal., has been fortunate in securing the services of Henry Kaupke as assistant in handling Oak Grove Berkshires. This young man is an especially keen judge of hogs and sheep, and has had very practical experience in the breeding and care of swine. The Oak Grove herd of registered Berkshires is now the largest in California and will afford Kaupke plenty of scope for the exercise of his talent.



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Every Dairyman should have a Copy of this Valuable Book

It gives facts of vital importance about feeding; also furnishes information about Dried Beet Pulp and how it should be fed.

LARROWE'S DRIED BEET PULP

is the ideal feed, not only for dairy cows, but also for hogs, goats, sheep, poultry and horses. It is wonderfully rich in carbohydrates. Makes a splendid combination with alfalfa. Can be added to any ration with profit. Succulent, digestible and palatable—Larrowe's Dried Beet Pulp entirely displaces silage (or can be fed with it, if desired) and is clean and healthful.

For FATTENING—and HORSES

We call your special attention to Larrowe's MOLASSES-DRIED Beet Pulp, which is simply the plain beet pulp with beet molasses dried. It is preferred by many feeders on account of its sweetness, and is being much used for dairy cattle as well as for fattening. It makes a splendid feed for horses—improving the general condition as well as coat.

Try a sack or two and note with what relish your stock take to it. Ask your dealer for "Larrowe's MOLASSES-DRIED Beet Pulp."

MORE MILK—QUICK

When you start feeding Larrowe's Dried Beet Pulp you get an instant response from your cows not only in improved health and general condition—but an extra 1 to 5 lbs. of milk per cow a day. This is surely worth trying. Order a sack from your feed dealer today and test it on one cow whose milk record you know.

In the meantime we'll be glad to send you a copy of our booklet—"Profitable Feeding"—free, if you write for it.

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PRINCESS SEQUEL.

Grand Champion Cow, owned by Elliott-Brant, Rancho, Owensmouth, Cal.

Some Guernsey Champions at 1914 California State Fair.

WANAGEN VISTA.

Junior Champion Bull, owned by J. W. Henderson, Berkeley, Cal.

Photos by McCurry.

TUNGSTEN.

Grand Champion Bull, owned by W. H. Saylor, San Francisco.

BRENTWOOD IRRIGATED FARMS

"Best in the West"

No better dairy farms in all California.
Alfalfa and dairying on Brentwood Irrigated
Farms bring large and certain returns.

Brentwood Irrigated Farms are located east of Mt. Diablo in Eastern Contra Costa County on the Southern Pacific railroad. The Santa Fe is about five miles distant. Water transportation about four miles from the east line of the property.

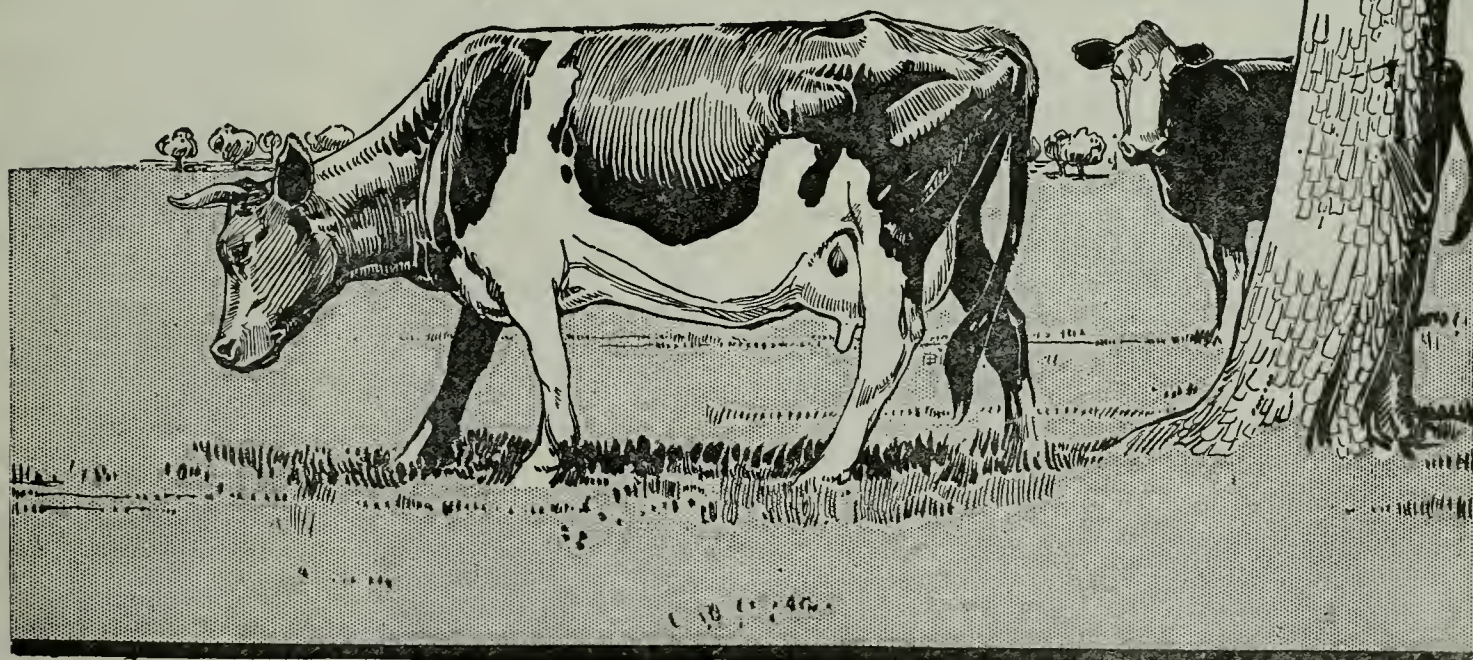
Within 60 miles are the million people of the San Francisco Bay district—a market for everything you will raise, including fruits and vegetables as well as dairy, poultry and pork products.

A complete irrigation system of the highest and best type of construction.

Practically every known California product can be grown here.

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APPLICATION OF REFRIGERATION TO THE HANDLING OF MILK.

The United States Department of Agriculture has just issued an 89-page professional bulletin dealing with the application of refrigeration to the handling of milk. The bulletin, which deals in a technical and semi-technical way with the many types of refrigerating apparatus, is intended to give information to owners and operators of small refrigerat-

ing plants, and especially those used in the various branches of the dairying industry. The bulletin also should be of interest to manufacturers of refrigerating machinery, in that it discusses fully modern methods used in the handling of milk and cream on a commercial scale.

The bulletin discusses fully the influence of time and temperature on the bacteriological flora of milk. It also discusses the principles involved, the installation, care and management of refrigerating machinery and gives elaborate diagrams,

illustrating the different methods employed in the utilization of refrigeration, with many charts showing the approximate cost of different sized plants, and the cost of operating same. One chapter deals with insulation, giving figures showing the relative efficiency of many types of insulating walls, while others deals with estimating the size of plants and the requirements for refrigerating plants for dairy purposes.

Considerable space is devoted to the problem of cooling milk on the farm, and to the advantages of

jacketing cans of milk while in transit. In this connection it is pointed out that the temperature of an un-jacketed can rose 28½° in three hours, while one that was hair-quilt jacketed rose but 5½°, and one wrapped in wet burlap 8½° in the same time.

This bulletin will be supplied free to those interested in refrigeration of milk so long as the department's supply lasts. Thereafter it can be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., at a price of 10 cents.

THE SWINE HERD

Swine Show at the California State Fair

The swine show at the California State Fair this year completely overflowed the old sheds and extra provision had to be made to house the exhibits. There was the hottest kind of competition among the breeders of the three leading breeds, and prizes were quite well distributed. Outside of the keen contests within breeds, the feature of the show was the very substantial progress made in the numbers and quality of the Duroc Jersey exhibits, which ranked next to Berkshires in number of head entered.

Berkshires.

The Berkshire exhibits were characterized by a little less of high show condition than in previous years, due to the avowed intention of a number of the leading breeders not to fit their breeding stock to the point where it interferes with breeding operations.

A. B. Humphrey made his usual large winning with members of his Grape Wild herd, and while this herd was especially well fitted, it is characteristic of them that they always have a good deal of finish, even at home on the ranch.

H. G. Armstrong made a good showing from his Oak Grove herd, but was somewhat handicapped in many classes by the fact that his hogs were not fitted to show condition. The idea at Oak Grove is to safeguard the breeding capacity of the herd and fitting for show is not allowed to interfere with the plan. The undefeated boar Improver B. was made grand champion over some good ones, and appears to have fully justified Mr. Armstrong's judgment in selecting him as a herd sire for Oak Grove.

J. L. Gish showed individuals from his model herd for the first time at the California State Fair. There was an abundance of quality apparent in the herd, but high show condition was not present. This herd is also conducted with the view of maintaining a maximum breeding capacity and what it lacked in show condition was made up in scale, bone and quality that go to make for the best breeding stock and market hogs.

C. E. Barrows, of show fame in the Northwest, has bought a farm in California and brought down a select representation from his herd. His boar Panama Lee was made champion bred by exhibitor. In the six months and under year class Prince of Tehama from Mr. Barrows' herd was slated for first place on individual merit until a slight temporary

imperfection due to an injury was brought out.

G. A. Murphy and H. L. Murphy showed smaller herds than usual, but were frequently among the leaders.

F. W. White provided the sensation of the Berkshire show with a few entries. His sow, Robin's Ruby, was made champion in the open class, and his boar Standard Master was right close to the winner when the boar championship was awarded. Mr. White also won the Berkshire Association trophy on herd under one year, one of the most highly valued prizes of the show.

Traver Goethe showed just a few head, but these had enough quality on their first appearance to serve notice that this herd must be reckoned with at the next meeting.

J. A. Goodall showed a few head, and got inside the money in a hot class or two.

THE AWARDS.

BERKSHIRES.

Exhibitors.

Pure Gold Stock Farm, Elk Grove, Cal.; C. E. Barrows, Los Molinos, Cal.; A. B. Humphrey, Mayhews, Cal.; Oak Grove Dairy Farm, Woodland, Cal.; T. W. Goethe, Walsh Station, Cal.; H. L. Murphy, Perkins, Cal.; G. A. Murphy, Perkins, Cal.; J. L. Gish, Laws, Cal.; F. W. White, Elk Grove, Cal.; University of California, Davis, Cal.; S. S. Day, Sacramento, Cal.

Champion boar, any age—Improver B., Oak Grove Farm.
Champion sow, any age—Robin's Ruby, White.

Champion sow, bred by exhibitor—Master's Lady Mayhew, Humphrey.
Boar 2 years old and over—First, Standard Master, White; second, Panama Lee, Barrows; third, Fashion Longfellow, Humphrey.

Boar 18 months and under 2 years—First, Improver B., Oak Grove Dairy Farm; second, Royal Masterpiece 13th, Goethe.

Boar 1 year old and under 18 months—First, Grandeur Leader 2nd, Humphrey.

Boar 6 months and under 1 year—First, Ruby's Kennett Lee, White; second, Baron D., Humphrey; third, Legal S., H. L. Murphy; fourth, Fashion Longfellow 3rd, Humphrey; fifth, Prince of Tehama, Barrows.

Boar under 6 months—First, entry of Humphrey; second, Model's Emperor, Gish; third, entry of Humphrey; fourth, University Farm Star 1st, University of California; fifth, entry of G. A. Murphy.

Sow 2 years old and over—First, Robin's Ruby, White; second, Premier's Fashion 2nd, Humphrey; third, Columbia's Model 28th, White; fourth, Columbia's Model 40th, H. L. Murphy, fifth, Nora's Beauty 3rd, Gish.

Sow, 18 months and under 2 years—First, Master's Lady Mayhews 2nd, Humphrey; second, Master's Lady Mayhews, Humphrey; third, Superior Rival's Princess, Humphrey; fourth, Masterpiece Berryton Duchess, Day; fifth, Columbia's Model 63rd, White.

Sow 1 year and under 18 months—First, Grape Wild Rivaless, Humphrey; second, Star's Princess 20th, Humphrey; third, Symboler's Belle, White; fourth, Crestview Lady D., G. A. Murphy; fifth, entry of G. A. Murphy.

Sow 6 months and under 1 year—First, May Queen of University Farm, University of California; second, Ruby Lee 6th, White; third, Mayhew's Silver Lady, Humphrey; fourth, Miss Los Molinos 2nd, Barrows; fifth, Successor's Bernice 6th, Goodall.

Sow under 6 months—First, entry of Humphrey; second, California Laurel 2nd, University of California; third, California Laurel 4th, University of California; fourth, Inyo Empress, Gish.

Berkshire herd, to consist of boar and three sows over 1 year—First, entry of Humphrey; second, entry of White; third, entry of Humphrey.

Berkshire herd, to consist of boar and three sows under 1 year—First, entry of Humphrey; second, entry of White; third, entry of Humphrey.

Berkshire herd, to consist of boar and three sows over 1 year, bred by exhibitor—First, entry of Humphrey.

Berkshire herd, to consist of boar and three sows under 1 year, bred by exhibitor—First, entry of Humphrey; second, White; third, Humphrey.

Get of sire, four swine the get of same boar, bred by exhibitor—First, get of Fashion Longfellow, Humphrey; second, get of Kennett Lee Jr., White.

Produce of dam, four pigs, any age, produce of same sow, bred by exhibitor—First, entry of Humphrey; second, entry of Barrows.

Berkshire fat barrow, any age of the breed—First, entry of Humphrey; second, entry of H. L. Murphy.

Berkshire pen of three fat barrows, any age of the breed—First, entry of Humphrey.

American Berkshire Association Trophy. Best boar and three sows under 1 year—First, Ruby's Kennett Lee, Kenneth Lee Duchess, Ruby Lee and Ruby Lee 2nd, White.

Duroc Jerseys.

Long before Judge Baxter got into action with the Durocs the intelligence of contest was in the air, and when the day of judgment arrived there was a large crowd on hand to see the awards made.

Every exhibitor had some top-notch individual, and as a result the prizes were well divided.

J. K. Fraser had a herd of high excellence all down through the classes, and won the National Duroc Association silver trophy on an excellent herd under one year bred and owned by exhibitor.

Rucker & Coppin showed an outstandingly good boar in Draughtnot, and their sow Queen Vic was very highly commended by Judge Baxter, who placed her first in the class of two years old and over.

J. E. Thorp was well up to the top with some good ones, and his herd shows very pleasing improvement over last year's form.

John P. Daggs has shown an improvement in quality in his herd every year he has shown, and the herd this year was a hot contender in every class. The get of Modesto King was particularly in evidence throughout the show. Daggs won the National Duroc Association special prize for boar and three sows over one year owned by exhibitor, also the American Duroc Association spe-

DUROCS At State Fair, 1st aged sow, 1st sow under 18 months; 1st boar under 2 years, 1st prize aged herd. Pigs \$15 from this herd.

Rucker & Coppin, Fair Oaks, Cal.

DUROC JERSEYS

Choice registered stock of both sexes for sale. Correspondence solicited. J. W. MOWRER, Turlock, Cal.

BERKSHIRES

Registered purebred stock of all ages.

Traver W. Goethe, Walsh Station, Cal.

DUROCS Can fill orders from 1 to 100 sows and gilts. Purebred stock of good quality and breeding. Also have 2 boars for sale.

H. P. Slocum & Sons, R 1, Willows, Cal.

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Out of first prize winners State Fair. Boars ready for service. Choice gilts. Pigs, either sex, \$15.

ED. E. JOHNSON, TURLOCK, CAL.

Duroc Swine

Fine lot of young stock for sale. Boars ready for service. Bred gilts and young pigs, both sexes. The long type and the kind that wins. J. K. FRASER, Denair, Cal.

DUROC JERSEYS

A few choice offerings for Fall Delivery. Prices right.

GLENOAK STOCK FARM, Davis, Cal.

DUROC BOARS

Young registered Duroc Jersey Boars from imported Iowa stock, for sale. Ready for service.

W. H. GINN & SON, Corcoran, Cal.

Knob Hill Stock Farm REGISTERED.

Poland Chinas

I offer young stock of both sexes out of prize-winning stock. Call and see my herd or write for prices.

A. M. Henry, Farmington, Cal.

GLENVIEW RANCH

LARGE TYPE, REGISTERED

POLAND CHINAS

Have a fine, vigorous lot of Baby Pigs of both sexes. Quality and price right. Order early as supply is limited.

CHAS. R. HANNA, R. 3, Riverslide, Cal.

FAIR VIEW HERD

POLAND CHINA HOGS

Booking orders for future delivery of pigs from our prize winners.

W. A. YOUNG, Prop., LODI, CAL.

Poland Chinas I have an extra good selection of Pigs out of my good big type sows and sired by Iowa Wonder, son of A. Wonder, and Longfellow 3d, son of Longfellow Jr. Pigs and prices are right. Write me your needs.

N. HAUCK, ALTON, HUMBOLDT CO., CAL.

PURE GOLD STOCK FARM

Breeders of BERKSHIRE HOGS HOLSTEIN-FRIESIAN CATTLE Offers for sale a few Choice Boars of breeding age, and a number of Boar Pigs containing the blood of Masterpiece and Robinhood. Prices, \$25 to \$75.

Also one choice Yearling Bull of good breeding. MARKOFER & LATTA, Elk Grove, Cal.

MULEFOOT HOGS

Let me send you some printed matter describing this great breed of hogs.

J. H. NORTON, R. F. D. 1, MESA, ARIZONA.

When writing to advertisers it will be appreciated by both advertiser and publisher if you start your letter: "Referring to your advertisement in The Live Stock and Dairy Journal."



PANAMA LEE.

Champion Berkshire Boar at 1914 California State Fair bred by exhibitor. Owned by C. E. Barrows.

ROBIN'S RUBY.

Grand Champion Berkshire Sow at 1914 California State Fair. Owned by F. W. White, Elk Grove, Cal.

Photos by McCurry.

clal prize for herd of boar and three sows.

University Farm brought out the champion boar in King Colonel, and were stroug in herd exhibits.

Elmer Lamb provided the sensation in the Duroc classes with an entry of only three head. He won second on his boar Ceres Boy, while his sow Lambs' American Beauty won first in her class and was made champion in the open classes, while his younger sow Ceres was made champion bred by exhibitor. This was Mr. Lamb's first showing at the State Fair, and it was certainly a favorable beginning.

Ed Johnson was right in the midst of the winners with some specimens from his herd that show improvement over last year's showing.

It is worthy of note that the Duroc breeders have all improved the quality of their herds during the past three years, and they were highly complimented by Judge Baxter, who is himself one of the noted Duroc breeders of the Middle West.

THE AWARDS.

DUROC JERSEYS.

Exhibitors.

J. K. Fraser, Denair, Cal.; Ed E. Johnson, Turlock, Cal.; J. W. Mowrer, Turlock, Cal.; J. E. Thorp, Stockton, Cal.; University of California, Davis, Cal.; John P. Daggs, Modesto, Cal.; Elmer Lamb, Ceres, Cal.; Rucker & Coppin, Fair Oaks, Cal.

Grand champion boar, bred by exhibitor—King Colonel, University of California Farm.

Champion sow — Lamb's American Beauty, Lamb.

Champion sow, bred by exhibitor—Ceres, Lamb.

Boars 2 years old or over—First, Daggs' Fancy Col., Daggs; second, Slocum's Crimson Wonder, Fraser; third, R. D.'s Beauty, Johnson; fourth, California Volunteer, Thorp.

Boar 18 months and under 2 years—First, Draughtnot, Rucker & Coppin; second, King Scott, Agair, Johnson.

Boar 1 year and under 18 months—First, Robert Leroy, Daggs.

Boar 6 months and under 1 year—First, King Colonel, University of California; second, Crimson Jumbo, Fraser; third, Crimson Wonder 2nd, Fraser; fourth, Fancy's Pilot, Johnson.

Boar under 6 months—First, University Colonel 2nd, University of California; second, Ceres Boy, Lamb; third, Omar of Mossdale, Thorp; fourth, Jack Monarch, Daggs; fifth, Edward, Mowrer.

Sows 2 years old and over—First, Queen Vic, Rucker & Coppin; second, Model Lady, Thorp; third, Gladys 11th, Fraser; fourth, Wayne's Beauty, Johnson; fifth, Fancy, Johnson.

Sows 18 months and under 2 years—First, Cherry Maid, Fraser; second, Cherry Maid Lass, Fraser; third, Stockton Lass, Thorp.

Sows 1 year old and under 18 months. First, entry of Rucker & Coppin; second, Alice Slippers, Daggs; third, Bessie Elder, Daggs; fourth, Fancy Nell of Mossdale, Thorp; fifth, Mamie Flake, Daggs.

Sows 6 months and under 1 year—First, Lamb's American Beauty, Lamb; second, Girlie 2nd of Mossdale, Thorp; third, Brighton 13th, Rucker & Coppin; fourth, Wonder's Lad, Fraser; fifth, Queen of U. C., University of California.

Sows under 6 months—First, entry of Johnson; second, Eleanor, Fraser; third, Bonnie Helen, Daggs; fourth, entry of Johnson; fifth, Minnie Hanley, Daggs.

Boar and three sows over 1 year—First, Rucker & Coppin; s cond, Daggs; third, Fraser.

Boar and three sows under 1 year—First, University of California; second, Daggs; third, Fraser.

Boar and three sows over 1 year, bred by exhibitor—First, Daggs.

Boar and three sows under 1 year, bred by exhibitor—First, University of California; second, Daggs; third, Fraser.

Four pigs any age, produce of same sow—First, produce of Princess of University Farm, University of California; second, Johnson; third, Daggs.

Barrow, any age of the breed—First, Bob, Fraser; second, Johnson.

Pen of three barrows, any age—First, Daggs; second, Johnson.

Special offer of the National Duroc Jersey Association, barrow under 1 year—First, Bobolink, Fraser; second, Johnson; third, Mowrer.

Pen of three barrows under 1 year—First, Bob, Bobby, Bobolink, Fraser; second, Johnson; third, Mowrer.

Boar and three sows owned by exhibitor—First, Daggs; second and third, Fancy's Pilot, Fancy's Rose 2nd, Fancy's Rose 3rd, Fancy's Rose 4th, Johnson.

Boar and three sows under 1 year, owned and bred by exhibitor—First, Fraser.

POLAND CHINAS.

The exhibits of Poland Chinas had hardly been placed in the pens before it was noised about that there was something doing in the way of new exhibits, and later developments confirmed the rumor. Not to be outdone by new breeders who had upset our traditions in the Duroc and Berkshire classes, W. Bernstein, a new exhibitor, staged a little show of his own in the Poland China classes and carried off both championships.

There was keen competition in all the classes, however, and in many instances the margins were exceedingly narrow.

M. Bassett brought up a herd of the established Bassett excellence, and won a liberal number of prizes from first down, including the champion sow bred by exhibitor.

W. A. Young was a keen contender at all times and was a frequent winner of blues.

W. H. Browning showed a herd of marked improvement over last year and had to be reckoned with in some hotly contested classes.

A. M. Henry did not have his herd in as high show condition as last year, preferring to sacrifice some show ring awards to greater breeding capacity in his herd. His hogs showed plenty of quality and size, however, even though some of his last year's prize winners were left at home to attend to the serious business of raising pigs.

A. L. Bassett is coming along in his father's footsteps with a choice herd and was frequently in the money.

George V. Beckman brought up nothing but young stock this year, he being another breeder who is unwilling to break into his breeding herd to fit for the shows.

W. Bernstein showed a herd of extraordinary excellence and finish. The herd presented a type that was neither of the pronounced medium type or at the large type. It seemed to have something of the quality of the medium type with an approach to the size of the big type, and this entry was studied by many a breeder wise in Poland China lore.

THE AWARDS.

Exhibitors.

University of California, Davis, Cal.; W. H. Browning, Woodland, Cal.; W. Bernstein, Hanford, Cal.; W. A. Young, Lodi, Cal.; M. Bassett, Hanford, Cal.; A. L. Bassett, Hanford, Cal.; A. M. Henry, Farmington, Cal.; Geo. V. Beckman, Lodi, Cal.

Champion boar, bred by exhibitor—King's Wonder, Bernstein.

Champion sow—Candy Kid, Bernstein.

Champion sow, bred by exhibitor—Banker's Lady, M. Bassett.

Boar 2 years old and over—First, King's Wonder, Bernstein; second, Hustler, Bassett; third, Young's Wonder, Young; fourth, Great Prospect, Browning.

Boar 18 months old and under 2 years—First, entry of Browning.

Boar 1 year old and under 18 months. First, All-Is-Well, Bernstein; second, Dandy Henry, third, Chief Picture 2nd, Bassett.

Boar 6 months and under 1 year—First, Hustler's Prospect, Bassett; second, Monarch, Bassett; third, Young's On the Dot, Young; fourth, George's, Bernstein; fifth, Hanford Boy, Bassett.

Boar under 6 months—First, Mark's Choice, Bassett; second, entry of Beckman; third, Captivator, Bassett; fourth, Hustler's Banker, Bassett; fifth, Perfection of University Farm 1, University of California.

Sows 2 years old or over—First, Bessie Ross, Bernstein; second, Black Bertha, Bernstein; third, Victory, Bassett; fourth, Queen of Kings, Bernstein; fifth, Miss F. Corrector, Bassett.

Sows 18 months and under 2 years—First, Candy Kid, Bernstein; second, Taffy Girl, Bernstein; third, Golden Prospect, Bassett; fourth, Chocolate Drop, Bernstein; fifth, Wonderful Queen, Bassett.

Sows 6 months and under 1 year—First, Lady Louis 2nd, Young; second, Matchless Susan 5th, University of California; third, entry of Browning; fourth, Lady Knight, Bassett; fifth, Lady B. Corrector, Bassett.

Sows under 6 months—First, Beautiful, Bassett; second, Her Majesty, Bassett; third, entry of Beckman.

Herd, boar and three sows over 1 year—First, Bernstein; second, Bernstein; third, Bassett.

Herd of boar and three sows under 1

Registered

Poland China Swine

PRIZE WINNERS

Finest Stock in the State from \$30 up.

I have for sale fine Young Boars sired by Gold Coln, Master Banker and Wonderful Victor. There is no better blood in the world.

M. BASSETT, Breeder

HANFORD, CALIFORNIA

Poland China Swine

I have for sale pigs of both sexes sired by my boar, Great Prospect (57949) out of sows sired by A. Wonder. For prices write or call

BROWNING STOCK FARM, WOODLAND, CALIFORNIA.

W. H. BROWNING, Prop.

DUROC JERSEYS Best Bred Stock Now in California

YOUNG STOCK AND SERVICE BOARS AND SOWS FOR SALE.

All Registered Purebreds, and from such sires as Wonder and Klondike. We are located in the Imperial Valley, and can supply breeding stock to all Pacific Coast Points. Write for prices and pedigrees to

MOORE BROS., El Centro, Imperial County, California.

Tamworths

The Celebrated Block and Bacon Hog. Especially adapted to California Climate. Boars, Sows and Young Stock for sale. Prices Right.

COTTLE & HOBSON COMPANY

AMSTERDAM, CAL.

O.I.C. SWINE

Everything Immunized Against Hog Cholera by Double Treatment

Stock registered and crated Free.

C. B. CUNNINGHAM.

MILLS, CALIFORNIA



BOARS SOWS PIGS

I have on hand a limited number of young Berkshire boars, a few gets, and some young pigs of both sexes. These are especially choice and of good breeding. Some are sired by RIVAL'S CRUSADER and LORD DUKE, and one or two bred here are by KENNETT LEE JR. Order early as the supply is limited.

G. A. MURPHY, Box 300, Perkins, Cal.

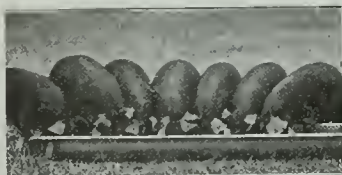
Bernstein's Ranch FOR POLAND CHINA HOGS

THE PRIZE WINNERS
THE MONEY MAKERS

W. BERNSTEIN, Proprietor
HANFORD, Kings County, CALIFORNIA

When writing advertisers it will be appreciated by advertiser and publisher if you start your letter: "Referring to advertisement in the Live Stock and Dairy Journal."

year—First, Bassett; second, Bassett; third, Young.
Herd of boar and three sows under 1 year, bred by exhibitor—First, Bassett; second, Bassett; third, Bernstein.
Get of sire, four swine the get of same boar, bred by exhibitor—First, Bassett; second, Browning.
Produce of sow, four pigs any age, produce of same sow, bred by exhibitor.



BLATCHFORD'S PIG MEAL

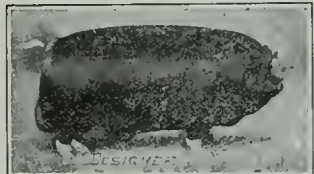
WEANS THEM SAFELY
and
STARTS THEM RIGHT.

100 POUNDS makes 100 GALLONS
— of —
PERFECT, SMOOTH, NOURISH-
ING MILK SUBSTITUTE.

FREE FOLDER AND PRICES ON
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COULSON CO.

PETALUMA, CALIFORNIA.



REGISTERED PUREBRED

POLAND CHINA SWINE

Herd headed by Designer (160363), Grand Champion Boar Oregon State Fair, 1911. Seven champion crosses close up. My sows are EQUALLY as WELL BRED. HAVE NOT HAD CHOLERA IN MY HERD OF THIRTY YEARS. Choice Pigs for Sale. (Registry Free to Purchaser.)

S. F. WILLIAMS

CHICO, CALIFORNIA.

Hampshire Swine

The breed that has won over all others for several years in the dressed carcass contest at International Fat Stock Show.



My herd has been selected with great care, and is headed by EL SALVADOR, winner of two silver cups in the strongest competition in the Middle West.

I have a choice lot of young registered pigs of both sexes for sale. Also a number of choice boars ready for service. Write for prices.

Frank Reed Sanders

MESA, ARIZONA.
In the Salt River Valley.

First, Bassett; second, Beckman.
Boar, any age—First, King's Wonder, Bernstein.
Boar, any age, bred by exhibitor—First, King's Wonder, Bernstein.
Sow, any age—First, Candy Kid, Bernstein.
Sow, any age, bred by exhibitor—First, Banker's Lady Bassett.

Chester Whites.

The Ohio Improved Chester hog was well represented by exhibits from C. B. Cunningham and University Farm. Cunningham has done more than any other man in California to make the white hog popular, and each year he shows better ones than in the year preceding. A feature of his exhibit this year was the general excellence of the stock which he has bred on his own place. His sow, Star Vino, is an unusually good specimen, and besides her show quality has an unusually good record as a brood sow.

University Farm is breeding some good white hogs and among their exhibits was a fine herd under one year.

THE AWARDS.

CHESTER WHITES.

Exhibitors.

C. B. Cunningham, Mills, Cal.; University of California, Davis, Cal.
Champion boar—California Dandy, University of California.

Champion boar, bred by exhibitor—Dodo, Cunningham.
Champion sow—Star Vino, Cunningham.

Boar 2 years old and over—First, Iowa Boy, Cunningham.

Boar 18 months and under 1 year—First, California Dandy 2nd, University of California.

Boar under 6 months—First, Cunningham; second, Cunningham; third, Cunningham; fourth, Cunningham.

Sow 2 years old or over—First, Star Vino, Cunningham; second, Mill's Best, Cunningham; third, Crescent Callie, Cunningham.

Sow 18 months and under 2 years—First, Miss Trim, Cunningham.

Sow 6 months and under 1 year—First, Silver Maid of University Farm 2nd, University of California; second, Silver Maid of University Farm 1st, University of California; third, Silver Maid of University Farm 3rd, University of California; fourth, Silver Maid of University Farm 4th, University of California; fifth, Gussie, Cunningham.

Sow under 6 months—First, Cunningham; second, Cunningham; third, Cunningham.

Boar and three sows over 1 year—First, Cunningham.

Boar and three sows under 1 year—First, University of California; second, Cunningham.

Four swine, get of same boar, bred by exhibitor—First, Cunningham; second, Cunningham.

Special offer of the California Stallion Registration Board, Class C—First, Don Castano, Adelaide Gillis, Los Angeles; second, Highland Squire King, L. E. English, Chino, Cal.; third, Lord Denmark, Mrs. Johnson, San Francisco, Cal.

Produce of sow, bred by exhibitor—First, Cunningham; second, Cunningham.

Chester White Barrow, any age—First, University of California.

YORKSHIRES.

All awards to University of California, Davis, Cal.

HAMPSHIRE.

All awards to Eaton & Hughes, Santa Rosa, Cal.



MODEL HERD OF REGISTERED BERKSHIRES

SHOWS IN THE ILLUSTRATION ABOVE A FEW OF ITS FOUR-MONTH-OLD PIGS. WE HAVE A FEW OF THIS TYPE FOR SALE. THEY ARE GOOD ENOUGH TO GO INTO ANY HERD.

J. L. GISH, Laws, California

Registered Jersey
Bull calves, with
600-lb. butter cows
in pedigrees for
\$75.00 each.

We breed Jerseys
for large sizes,
large teats, high
production and
strong constitution.

Registered Jersey
Heifers with 600-
lb. butter cows in
pedigrees, for \$250
each.

GREEN GOLD (Alfalfa) RANCH

J. M. BOMBERGER, Proprietor. MODESTO, CAL.

Berkshire Boar
Pigs for
\$10.00 each.

We breed Berk-
shires for large
strong litters
which means
heavy milking
sows.

Berkshire Sow
Pigs for
\$12.00 each.

Elk Grove Herd of Berkshire Swine

Our winnings at the California State Fair of 1914 demonstrate the high quality of the Registered Berkshires composing this herd: First prize 2-year-old boar, first prize and champion 2-year-old sow, first prize boar under one year, second prize sow under one year, silver cup for best young herd bred by exhibitor.

F. W. WHITE, Elk Grove, Sacramento County, California.

PUREBRED HOGS SHOULD BE VACCINATED.

The questioning of vaccinating against cholera should be of especial interest to breeders of pure-bred hogs. Where these hogs are offered for sale, with a pedigree, for breeding purposes the man who can advertise his stock as being immune to cholera has the advantage over his competitors.

If vaccinated by the simultaneous method at the time of disposal, they can safely be guaranteed to withstand any form of infection so far encountered in this State.

In the east and middle west the leading hog breeders are advertising their stock as being immune to cholera or having been vaccinated.

This should be an advantage to the breeders in so much as it protects his hogs from cholera and also acts as an insurance for the buyer, who would be willing to pay a premium for stock which he knows is insured against death from cholera.

J. H. HOFFMAN,

Veterinarian Idaho Hog Cholera Serum Plant.

In selecting breeding stock, the records of the ancestry are always important, but the records of the ancestry nearest the individual that you are buying are naturally the most important.

The Wonder Trip To Sacramento SAFETY

Through Trains to Marysville, Colusa, Oroville and Chico

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Photo by McCurry.

IMPROVER B.

Grand Champion Berkshire Boar at 1914 California State Fair.
Owned by Oak Grove Dairy Farm, Woodland, Cal.

MORE CALIFORNIA HOGS WANTED.

Pointers About Feeding.

When one starts in feeding hogs it must be remembered that the idea is not only that the hogs must pay for their keep, but that your primary object is to make them pay also for your keep. With this in mind then the raiser of the hogs must apply himself to the best selection of both an economical and quick fattening ration.

Bear in mind that the hog appreciates a variety of foods just as much as the human does. No one food will produce as much pork as a variety of equally good foods. The question of palatability enters into the success of the foods of animals in a greater degree than is usually considered. Pasturage is the foundation of pork and is the most important factor in pork making. Without good pasturage you have no means of forcing the hogs to exercise, which is necessary for their health. On the Pacific Coast alfalfa, which is the best forage in the country, grows in most places, but clover, vetch, kale, barley, wheat and oats provide an opportunity for pork making that gives the country special advantages. Other pasture crops, such as kaffir corn, milo maize, sorghum, field peas and artichokes, furnish not only pasturage, but a large percentage of grain food.—Bulletin No. 113, Pig Feeding, University of Florida Agricultural Experiment Station, Gainesville, Fla.; Farmers' Bulletin No. 22; Bulletin No. 165, Experiment Station, Fort Collins, Colorado.

The California Agricultural Experiment Station at Davis is at all times very glad to answer any question with reference to hog raising. The Western Meat Company, San Francisco, is maintaining a department to advise with any one intending to start raising hogs or those who are already doing so. If any one interested in this subject will forward their name and address they will be placed on the mailing list and supplied with bulletins and information with reference to hog raising issued by various agricultural colleges.

THUMPS IN PIGS.

This is a spasmodic or irregular contraction of the diaphragm, and is due to an irritated condition of the nerves supplying this organ. Digestive disorders, especially overloading of the stomach, and lack of exercise are the main causes. It occurs more often with sloppy food.

The most prominent symptom is a jerking movement of the flank.

These jerky movements are irregular and may be of such force as to move the body backward and forward.

They are more noticeable when the pig is standing still, and usually occur shortly after a full meal. The affected pig soon becomes stunted and very thin in flesh, often being affected with a chronic diarrhoea.

Preventive treatment consists of providing plenty of exercise. Pigs turned out to pasture are very seldom troubled. To relieve the spasm give from five to fifteen drops of tincture of opium in a small amount of water three times a day. A teaspoonful of castor oil should be given to prevent constipation.

A. R. HOHNER,
Veterinarian, Idaho Experiment Station.

SONOMA-MARIN DISTRICT FAIR.

The Sonoma-Marin District Fair, held at Santa Rosa, Cal., August 31st to September 5th, was a most successful one, and drew large crowds and a high class of agricultural exhibits.

The live stock exhibit was the most extensive yet made in Sonoma County, and awakened a new interest in the production of better stock.

In the draft horse classes the Shire exhibit made by Jack London was easily the feature, and a number of high class individuals from his stud were shown, including Neuadd Hillside, that was grand champion Shire stallion at the 1912 California State Fair.

Eaton & Hughes had some very good jacks and jennets in the ring, and won a liberal number of prizes.

In the Shorthorn cattle classes the Hillcrest herd, owned by Thornton S. Glide, met Hopland Stock Farm herd, owned by the Foster Company of Hopland. The Hillcrest herd was in fine condition, and won a great number of the firsts and both championships. The Hopland herd is going to be a factor in future shows, as there is some very choice young stock coming on.

In the dairy cattle classes Eaton & Hughes and S. A. Brittain captured most of the Jersey ribbons, while other breeds were conspicuous by their absence.

The swine classes brought out some very good individuals, the Berkshire herds of F. A. Brush and E. C. Rand, the Duroc Jersey herd of Wm. C. Chisholm, and the Hampshire herd of C. B. Laughlin deserving special mention for excellence.

Thornton S. Glide made an excellent showing with a small flock of Dorset Horn sheep, and won all the prizes except three.

SUMMER FALLOW AGAIN.

Summer fallowing seems to be definitely a part of farming operations in the Palouse. Much as many of us insist that it does not serve its purpose as well as other practices might, it is an established fact and we must face it.

There are two main reasons for summer fallow. In regions of scant rainfall it is resorted to in order to save two seasons' rainfall to grow one season's crop. That kind of a fallow we hardly need in the Palouse in the ordinary years. The other reason for fallow is as many farmers say to rest the land. Sometimes also this kind of a fallow is used to kill obnoxious weeds. Both of these reasons farmers insist require them to fallow. Let us assume for the sake of argument that it is necessary to fallow to rest the land, and to kill obnoxious weeds. If this is true, then the prevalent practice of farmers is wrong and wasteful, for the majority of them plow the land and let it lie until fall with no further treatment. The obnoxious weeds thrive on such a field and provide seed for the following year. And after such a season of rest (?) the field is presumably ready to grow another paying crop.

Now a rest results primarily in changes in the form of nitrogen in the field. At least those are the changes we are especially interested in. It is a well-known fact that nitrogen in the available form is lost when a field is plowed up and left lumpy. And yet many of our farmers on the heavier soils plow up their fields and leave them in lumps until fall and assume they have summer fallowed. The result has been a loss of nitrogen, and the field is poorer than it was at the beginning.

Let us practice summer fallowing if we feel we must. But if we do practice it, make it a real fallow and not the growth of weeds or the ideal condition for loss of valuable plant food. A fallow field should be plowed in the spring, and harrowed or disced often enough during the summer to keep down weed growth, and keep the surface mulched. This latter condition not only saves evaporation of moisture, leaving the field in ideal condition for fall wheat, but it is converting the nitrogen of the soil into nitrates—an available form.

GEORGE W. GRAVES,
Soils Department Idaho Experiment Station.

OAK GROVE BERKSHIRES

Oak Grove Herd of Registered Berkshires has been increased in size until we now have over fifty brood sows of the most approved type and breeding. Recent additions to the herd have very materially raised our standard of quality.

At the head of our herd are the great boars, IMPROVER B, ARTFUL MASTERPIECE, BRINTON'S LONGFELLOW and IOWANA MAJESTY. This group of boars is not surpassed in quality in the West.

The entire herd is immunized against hog cholera, and nothing but immunized stock is sent out

About December 1st we shall be ready to make delivery of pigs by IMPROVER B, and reservations for his pigs should be made early, as the demand has already begun.

OAK GROVE DAIRY FARM

H. G. ARMSTRONG, Proprietor

Woodland, California

IOWANA FARMS

BREEDERS OF REGISTERED STOCK ONLY

Holsteins

with the TYPE, CONFORMATION, CAPACITY, BREEDING and A. R. O. backing to make them producers. INDIVIDUALITY and PERFORMANCE, as well as breeding, constitute our basis of judgment of animals. Not only must they be bred in producing lines, but they must be producers themselves, having the capacity for work, and the vigor and strength, and constitution which go to make them business animals.

Herd Sires—SIR JOHANNA FAYNE (No. 42147), and OAK DE KOL OLLIE HOMESTEAD (No. 85529).

Berkshires

ONE HUNDRED choice sows, bred to the following boars, have farrowed pigs during the months of March, April and May. These sires are of outstanding merit as individuals, and represents the very best in Berkshire blood lines: Rival's Iowana Baron (172535), Baron Premier 102d (172300), Masterpiece Rival 2d (137725), Ames' Rival 36th (176400), Double Champion (168700), Rival's Iowana Baron 2d (172536), Artful Belle's Rival 3d (133678).

The sows are equal in breeding and quality to the boars, and these matings have brought pigs that are the best in Berkshire type and characteristics.

Write us for Holsteins and Berkshires, or, better come and see us.

IOWANA FARMS, Davenport, Iowa J. L. Thatcher, Manager

WINONA BERKSHIRES

BIG FOUR

At 10 months, when he weighed 475 pounds.



Big Four

Riverbank Premier

Baron Premier
100th

For sale weaned Berkshire pigs by these boars out of DUKE'S LADY VALUE 10TH, present Junior and Reserve Grand Champion of America. MISS L 2ND, Junior and Grand Champion, 1913, Oregon State Fair. PRINCESSES ROYAL S., Senior Champion of Oregon; and other sows of equally good breeding.

F. R. STEEL

WINONA RANCH

Grants Pass, Ore.

THE HORSE

Draft Horses at the State Fair

The draft horse show at the 1914 California State Fair was in keeping with the awakening public appreciation of the possibilities in the breeding of draft horses of the better quality, and the rings of great, powerful drafters never stood before a larger or more appreciative gathering than was at the ring side during the judging period. Judge John T. Caine was confronted with class after class, large in numbers and high in quality, and his work in placing the awards was highly creditable.

The Percherons as usual dominated the draft horse show. Dunham-McLaughlin Company had a large exhibit of stallions of outstanding merit and well fitted.

T. D. McLaughlin Importing Company showed a choice selection of young stallions and were well in evidence in all classes in which they showed.

Ruby & Bowers had only a few head in the ring, but among them were two mares of pronounced quality. Como, the three-year-old, is somewhat rangier than her two-year-old half sister, Marie, but the latter is a beautiful young mare that ought to have a lot of sisters just like her on our farms.

C. A. Penniger showed a choice lot of mares and stallions that are a credit to American breeding. The writer has commented before on the splendid colts that have been got by Sultan, the grand old stallion that stood for so many seasons in Stanislaus, San Joaquin county. No less striking in quality is the get of Inimitable, and if more of our high quality stallions were given an opportunity to mate with high class mares such as are found in the Penniger stud there would be more respect for the American bred Percheron.

H. G. Learned made a strong showing of American bred stock, much of the best of it being the get of Pink Paris and the produce of Kate.

Whitehall Estate, Inc., who have taken over the Titus stud, were in evidence with a number of good ones, most conspicuous of which was

was Reserve Champion at last year's International.

M. Bassett had the excellent stallion Ithos in the ring in both the open and state classes, and while he was nosed out for first place in the open class he was a comparatively easy winner of first in the state class.

Wm. Bond brought up some mares that were well up in the money, both taking second place in their respective classes.

The aged stallion class was generally pronounced the best that has ever lined up at California State Fair. When the ribbons were all placed after long and careful deliberation by Judge Caine, there were a lot of mighty good horses outside the money, and three exceptionally good ones inside.

Krural, the winner, is a massive four-year-old, that had a shade over the second horse, Ithos, in size only. The latter horse was not in high show condition and the fact that he stood above many horses thoroughly fitted, speaks volumes as to his quality. The third horse, Jacquard, well deserved third position because of his massive build and good type.

The three-year-old class uncovered the grand champion in Lucon, a magnificent black. He has size, bone, is very well muscled, and with excellent feet and pasterns. As he stands he is more than a ton of beautiful horse power, but when he gets in action the beauty of his form is for the moment forgotten in the amazing action which he has for a horse so large. He is one of the rarest movers noted at this show in recent years.

Londricitos, winner of second position in this class, is an individual of outstanding merit, and was last year Reserve Champion at the International. He has been given fairly heavy service at the Whitehall stud at Tracy, but showed up in the ring in excellent condition.

Laos, the third horse, is a worthy contender with the two great horses placed above him, won his high

Auction Sale Registered Percherons

Including several first prize winners at 1914 State Fair

On the ranch of C. A. PENINGER, six miles southwest of STOCKTON, California

THURSDAY, OCTOBER 22, 1914

5 Percheron mares, 1800 to 2100 lbs. each, one 2-year-old Percheron mare, two 2-year-old Percheron stallions, half interest in imported Percheron stallion, two yearling Percheron stallions, three Percheron stud colts, sucklings; all registered, and papers will be furnished to buyers.

Also, eleven head grade horses, registered Jersey bull, fifteen head dairy cattle, farm implements, household goods.

C. A. PENINGER, Owner
Stockton, Cal.

C. T. WIGGINS, Auctioneer,
Lathrop, Cal.

place in the class through marked draft excellence.

The outstandingly good mare class was the four year's old and over. In Fritz, Pink Julia and Kamiche were three mares fit to show in any ring. It is somewhat significant that the winner of first place, Fritz, and Pink Julia, the winner of second place, are both California bred mares.

Fritz, later made Champion mare, is a powerful black of excellent body, good underpinning and a marked appearance of life and intelligence. She is especially good in action, and is altogether a thoroughly good mare.

THE AWARDS.

PERCHERONS.

Exhibitors.

Dunham-McLaughlin Co., Oakland, Cal.; T. D. McLaughlin Co., Oakland, Cal.; C. A. Penniger, Stockton, Cal.; Wm. Bond, Newark, Cal.; H. C. King, Galt, Cal.; H. G. Learned, Stockton, Cal.; Whitehall Estate, Inc., Tracy, Cal.; G. J. Albrecht, Oakland, Cal.; M. Bassett, Hanford, Cal.; Elliott - Brant Rancho, Owenmouth, Cal.; Ruby & Bowers, Davis, Cal.; Edmund Miller, Stockton, Cal.

Champion stallion—Lucon, Dunham-McLaughlin Company.

Champion mare—Fritz, C. A. Penniger, Stockton, Cal.

Open Class.

Stallion 4 years and over—First, Krural, Dunham-McLaughlin Co.; second, Ithos, Bassett; third, Jacquard, Whitehall Estate, Inc.

Stallion 3 years and under 4—First, Lucon, Dunham-McLaughlin Co.; second, Londricitos, Whitehall Estate, Inc.; third, Laos, T. D. McLaughlin Importing Co.

Stallions 2 years and under 3—First, Majeur, Dunham-McLaughlin Co.; second, Marchfield, T. D. McLaughlin Importing Co.; third, Mafram, Dunham-McLaughlin Co.

Stallions 1 year and under 2—First, Star, Penniger; second, Marvel, Miller; third, Ebro, Elliott-Brant Rancho.

Mares 4 years old or over with foal at feet—First, Kate Learned; second, Copula, Bond.

Mares 4 years old and over—First, Fritz, Penniger; second, Pink Julia, Learned; third, Kamiche, Bassett.

Mares 3 years old and under 4—First, Como, Ruby & Bowers.

Percheron mares 2 years and under 3—First, Marie, Ruby & Bowers; second, Miss Inquiet, Bond.

Mares 1 year and under 2—First, Patti, Learned.

Percheron foals under 1 year—First, Bay Boy, Learned; second, Copula's Colt, Bond.

Get of sire, four animals under 4 years—First, get of Inimitable, Penniger.

Produce of dam, mare and two animals under 4 years—First, produce of Fritz, Penniger; second, produce of Copula, Bond.

State Class.

Stallions 4 years old or over—First, Ithos, Bassett; second, Jacquard, Whitehall Estate, Inc.

Stallions 3 years and under 4—First, Londricitos, Whitehall Estate, Inc.; second, Mordu, Albrecht; third, Buster Penniger.

Stallions 1 year and under 2—First, Star, Penniger; second, Marvel, Miller; third, Ebro, Elliott-Brant Rancho.

Mares 3 years old or over and foal at feet—First, Kate and foal, Learned; second, Copula and foal, Bond.

Percheron mares 4 years old or over—First, Fritz, Penniger; second, Pink Julia, Learned; third, Kamiche, Bassett.

Mares 3 years and under 4—First, Como, Ruby & Bowers; second, Lili, Whitehall Estate, Inc.

Mares 2 years and under 3—First, Marie, Ruby & Bowers; second, Miss Inquiet, Bond.

Mares 1 year and under 2—First, Patti, Learned.

Foals under 1 year—First, Bay Boy, Learned; second, Copula's Colt, Bond.

Get of Sire, four animals under 4 years—First, Get of Inimitable, Penniger.

Produce of Dam—First, Produce of Fritz, Penniger.

Shires.

The Shire exhibits were quite a bit smaller in numbers than last year. Henry Wheatley was the principal exhibitor and his showing is always good.

McCormick Bros. brought Severn Pilot to the show ring and while his performance was good there he won his real laurels in the prize offered by the State Stallion Registration Board on his get, which is after all the real test of a stallion.

THE AWARDS.

SHIRES.

Open Class.

Exhibitors—Henry Wheatley, Napa, Cal.; E. W. Westgate, Rio Vista, Cal.; McCormick Bros., Rio Vista, Cal.

Champion stallion—Salvador Forest King, Wheatley.

Champion mare—Lady Redlynch, Wheatley.

Stallions 4 years old or over—First, Harboro Combination, Wheatley; second, Severn Pilot, McCormick Bros.; third, Desford Banker, Wheatley.

Stallion 2 years and under 3—First, Salvador Forest King, Wheatley; second, Severn Donald, McCormick Bros.

Mares 4 years old or over and foal at feet—First, Violet and foal, Wheatley; second, Mellington Princess and foal, Wheatley.

Mares 4 years old or over—First, Lady Redlynch, Wheatley.

Mares 1 year and under 2—First, Salvador Queen, Wheatley; second, Salvador Champion Princess, Wheatley.

Shire foal under 1 year—First, filly foal, Wheatley; second, stallion foal, Wheatley; third, stallion foal No. 2, Wheatley.

Produce of dam—First, produce of Violet, Wheatley; second, produce of Mellington Princess, Wheatley.

State Class.

Stallions 4 years old or over—First, Harboro Combination, Wheatley; second, Severn Pilot, McCormick Bros.; third, Desford Banker, Wheatley.

Stallions 2 years and under 3—First, Salvador Forest King, Wheatley; second, Severn Donald, McCormick Bros.

Mares 4 years old or over and foal at feet—First, Violet and foal, Wheatley; second, Mellington Princess and foal, Wheatley.

Mares 4 years old or over—First, Lady Redlynch, Wheatley.

Mares 1 year and under 2—First, Salvador Queen, Wheatley; second, Salvador Champion Princess, Wheatley.

Shire foals under 1 year—First, filly

Registered Jacks



Twelve head from 2 to 6 years old. Native Sons, hardy as Billy Goats and about as active.

Extra heavy bone and right every way. Fully tested as breeders and sold under an absolute guarantee.

Will trade for Young Mules, Horses, or Land.

Come and see the stock.

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J. W. McCord

HANFORD

CALIFORNIA



LUCON.

Photo by McCurry.

Grand Champion Percheron Stallion.
Owned by Dunham-McLaughlin Co., Oakland, Cal.

foal, Wheatley; second Boro Mayflower's foal, Westgate; third, stallion foal, Wheatley.

Produce of dam, two animals under 4 years—First, produce of Violet, Wheatley; second, produce of Mellington Princess, Wheatley.

Belgians.

Belgian entries were limited to two good stallions, the champion, Vulcain de la Coboche, successfully defending his title.

THE AWARDS.

BELGIANS.

Exhibitors.

George J. Luhrs, Bethany, Cal.; A. L. Watson, Patterson, Cal.
Champion stallion—Vulcain de la Coboche, G. L. Luhrs, Bethany.
Belgian stallions 4 years old or over—First, Vulcain de la Coboche, Luhrs; second, Champagne, Watson.

Clydesdale.

The Clydesdale entries were much smaller than this excellent breed deserves, and hardly afforded the public an opportunity to view a representative exhibit.

O. E. Brandt won the mare championship with his good mare, Lady Marcus, a mare that could win against much stronger competition.

THE AWARDS.

CLYDESDALES.

Exhibitors.

Ruby & Bowers, Davis, Cal.; O. H. Brant, Schellville, Cal.
Champion mare—Lady March, Brant.
Mares 4 years old or over with foal at feet—First, Florence Lynn and foal, Ruby & Bowers.

Mares 4 years old or over—First, Lady March, Brant; second, Rose Leaf, Ruby & Bowers.

Clydesdale foals, stallion or filly, under 1 year—First, Tribby, Ruby & Bowers; second, 293-A, Jeta and Stud Colt, Brant; third, stallion colt, Brant.

Saddle and Driving Horses at California State Fair.

The saddle horses continued their triumphant march onward in public approval at Agricultural Park during fair week, and the big tent was taxed to capacity every evening, with a large overflow on the big days.

The saddle horse as exemplified by the type now generally recognized in this country, is certain to be one of the most stable of horse types. There is nothing that can take his place in the particular kind of sport and pleasure which he contributes to mankind, and the growing demand for this class of stock is a pleasing indication of healthful thought among our people.

The exhibits and performances of the saddle and driving horses this year were one of the most pleasing features of the fair.

THE AWARDS.

SADDLE HORSES.

Exhibitors.

E. A. Bridgford, San Francisco, Cal.; R. L. English, Chino, Cal.; L. C. Trewitt, Northern, Cal.; Charlotte B. Anderson, Oakland, Cal.; W. Bernstein, Hanford, Cal.; Adelaide S. Gillis, Los Angeles, Cal.; Anna P. Dahl, San Francisco, Cal.; Mrs. Thos. L. Johnson, San Francisco, Cal.; L. Mintzer, San Rafael, Cal.; Dr. Quinn, Antioch, Cal.; Dr. W. J. Smyth, Alameda, Cal.; J. A. Byrne, Oakland, Cal.; Leon Liebes, San Francisco, Cal.; Riding and Driving School, San Francisco, Cal.; Mrs. R. C. Schand, Hamilton City, Cal.; A. D. Davis, Knightsen, Cal.; J. G. Gethin, San Francisco, Cal.; Leota Zapp, Fresno, Cal.; Edgar J. De Pue, San Francisco, Cal.; Edward de Le Cebrin, San Francisco, Cal.; E. C. Ford, San Francisco, Cal.; Mrs. E. H. Lockwood, San Francisco, Cal.; F. E. Abecassis, Woodside, Cal.; Leon Greenbaum, San Francisco, Cal.; S. Mitchell, Visalia, Cal.; Carl H. Zimmerman, Davis, Cal.

Five gaited saddle stallion 4 years old and over—First, Lord Denmark, Johnson; second, San Jacinto, English; third, Don Pedro, Bridgford.

Five gaited stallions 3 years and under 4—First, Angelus Denmark, Bernstein & Trewitt.

Five gaited stallions 2 years and under 3—First, Delmonte Denmark, English.

Five gaited stallions 1 year and under 2—First, San Vicente, Gillis; second, Weissinger's Chief, Anderson; third, LeGrand McDonald, Bridgford.

Five gaited stallions under 1 year—First, Monarch Dare, Gillis; second, California's Best, Bridgford; third, Prince Denmark Pacific Coast, Johnson.

Five gaited saddle mares 4 years old and over—First, Angelus Butterfly, Anderson; second, Lady Fashion the 2nd, Quinn; third, Mania, Bridgford.

Five gaited saddle mares 3 years and under 4—First, Highland Lucia, English; second, Alpha, Bridgford; third, Candy Kid, Smyth.

Five gaited saddle mares 2 years and under 3—First, Undulata Annie, Anderson; second, Parkadena, Bridgford.

Five gaited saddle mares 1 year and under 2—First, Peg o' My Heart, Smyth; second, Undulata Princess, Byrne.

Five gaited saddle mares under 1 year—First, Rose Denmark, Bernstein.

Get of sire—First, get of Highland Squirrel King, English; second, get of Artist Junior, Bridgford; third, get of Lord Denmark, Johnson.

Produce of dam, brood mare and two of her foals—First, Undine and two colts, Gillis; second, Black Bell and two colts, Bernstein.

Five gaited gelding, 4 years old and over—First, Lee Rex, Liebes; second, Midnight, Anderson; third, Tommie Mack, Schand.

Five gaited gelding 3 years old and under 4—First, Panama, Bridgford.

Five gaited gelding 2 years old and under 3—First, Silver Pointer, Bridgford.

Five gaited mares or geldings, any age—First, Angelus Butterfly, Anderson; second, Lee Rex, Liebes; third, Alpha, Bridgford.

Five gaited stallions, mares or geldings, owned, exhibited and shown by non-professionals—First, Angelus Butterfly, Anderson; second, San Jacinto, English; third, Tommie Mack, Schand.

Five gaited stallion, mare or gelding ridden by lady—First, Lord Denmark, Johnson; second, Angelus Butterfly, Anderson; third, Lee Rex, Liebes.

Pacific Coast Gaited Saddle Horse Association—First, Highland Lucia, English; second, Alpha, Bridgford; third, Candy Kid, Smyth; fourth, Panama, Bridgford.

Futurity No. 1—First, Monarch Dare, Gillis; second, California Best, Bridgford; third, Prince Denmark, Johnson.

State Fair stakes for five-gaited saddle horses—First, Angelus Butterfly, Anderson; second, Lord Denmark, Johnson; third, San Jacinto, English, fourth, Don Pedro, Bridgford.

State Fair stakes, Class B—First, San Jacinto, English; second, Don Pedro, Bridgford; third, Alpha, Bridgford.

The Lord Denmark cup—Prince Denmark, Johnson.

COMBINATION SADDLE HORSES.

Combined harness and five gaited stallions, any age—First, Lord Denmark, Johnson; second, San Jacinto, English; third, Shield Montrose, Davis.
Combined harness and five gaited mares, any age—First, Highland Lucia, English; second, Candy Kid, Smyth; third, Alpha, Bridgford.

Combined harness and five gaited geldings—First, Lee Rex, Liebes; second, Midnight, Anderson; third, Ramona, Bridgford.

THREE-GAITED SADDLE HORSES.

Three gaited mare or gelding over 15.1 carrying weight up to 200 pounds—First, Oregon, Lockwood; second, Golden, Ford; third, Chancellor, Lockwood.

Three gaited mare or gelding under 15.1 to 160 pounds—First, Edith Adams, English; second, Chester Chief, Greenbaum; third, Delight, DePue.

Three gaited mare or gelding, not over 15.1, ridden by a lady, cup—Edith Adams, English.

Three gaited mare or gelding, 15.1 or over, ridden by a lady or gentleman—First, Edith Adams, English; second, Golden, Ford; third, Chancellor, Lockwood.

Three gaited saddle mare or gelding, owned, exhibited and shown by a non-professional—First, Edith Adams, English; second, Golden, Ford; third, Chester Chief, Greenbaum.

Three gaited saddle mare or gelding 3 years old or over—First, Delight, DePue; second, Golden, Ford; third, Chancellor, Lockwood.
Combination three gaited mare or gelding 3 years or over—First, Edith Adams, English; second, Chancellor, Lockwood; third, Chester Chief, Greenbaum.

26—L S J

STOCK AND ARMY HORSES.

Exhibitors.

S. H. Cowell, Santa Cruz, Cal.; Leota Zapp, Fresno, Cal.; Edgar DePue, San Francisco, Cal.; O. A. Black, Sacramento, Cal.

Stock Horses.

Best horse over 14.3 hands—First, Jack, Cowell; second, Dick, Cowell; third, George, Black.

Best horse, United States cavalry type—First, Lord Golden, Lockwood; second, Morgan Hill, Zimmerman.

Best horse United States artillery type—First, Golden, Ford; second, Jerry, DePue.

Harness Horses.

Best pair, any sex—First, Highland Squirrel King and mate, English; second, Delight and Emeline, DePue.

Harness stallion, mare or gelding—First, San Jacinto, English; second, Midnight, Anderson; third, Don Pedro, Bridgford.

Novelty.

Best team, rig and equipment—First, Delight and Emeline, DePue; second, Pluto and Proteus, Johnson.

Best single horse, rig and equipment—First, Chester Chief, Greenbaum; second, San Jacinto, English.

Tandem 3 years old or over—First, Delight and Emeline, DePue; second, Pluto and Proteus, Johnson.

Shetland Ponies.

Exhibitors—Jna. W. Richter, Santa Barbara, Cal.; Maurice Rucker, Fair Oaks, Cal.; Leota Zapp, Fresno, Cal.; Jaa. N. Watson, Modesto, Cal.; Charlotte B. Anderson, Oakland, Cal.; Laura

Insure Your Harness

The worst enemies of leather are dust and sweat. They get into the pores of the leather, dry it up and soon make tugs and breeching unsafe. Protect your harness with

EUREKA Harness Oil

It seals up the pores and keeps out the destructive elements. It keeps your harness soft, pliable and strong; preserves its original inky-black color. It contains no acid or other injurious ingredients. Dealers everywhere.



Standard Oil Company (CALIFORNIA)



E. McGinn, San Francisco, Cal.; W. H. McLaughlin, Oakland, Cal.; Pure Gold Stock Farm, Elk Grove, Cal.

Shetland stallions 3 years or over—First, Bob, Stretter; second, Comet the 1st, Rucker.

Shetland mares 3 years and over—First, Golden Rod Falfa, Ritcher; second, Golden Rod Fedalma, Ritcher.

Shetland mares 1 year and under 2—First, Juno, Rucker.

Shetland stallion or filly foal under 1 year—First, entry of Zapp; second, entry of Zapp.

Shetland stallion and two or more of his get—First, Stretter; second, Rucker. Shetland mare and two or more of her produce—First, Rucker.

Pair Shetland ponies in harness, any sex—First, Richter; second, Sparkie, Zapp.

Grand display, five animals, any sex, owned by exhibitor—First, Zapp.

Shetland single pony in harness, stallion, mare or gelding—First, Bobby, Ritcher; second, Madonna, Zapp.

Jacks, Jennies, Etc., Breeders' Class.

Exhibitors—Dill Bros., Clements, Cal.; Eaton & Hughes, Santa Rosa, Cal.; Dan Emmett, Jr., Somis, Cal.; Frank Hart, Colterville, Cal.; A. R. Grieve, Davis, Cal.; M. A. Morrill, Willows, Cal.; C. W. Blevins, Williams, Cal.; W. J. Greer, Eureka, Cal.

Champion jack—Jumbo, Blevins, Williams, Cal.

Champion jennie—Jennie Flood, Merrill, Willows, Cal.

Jacks 4 years old or over—First, Jumbo, Blevins; second, Sampson Mack, Emmett, Jr.; third, Frenchy, Merrill.

Jacks 3 years and under 4—First, Jim Snell, Merrill.

Jacks 2 years and under 3—First, Johnnie, Merrill; second, Jim McCord, Greer; third, Klondike, Blevins.

Jacks 1 year and under 2—First, Joe Giant, Greer; second, King Giant, Greer.

Jennies 4 years old or over and foal at feet—First, Nora, Dill Bros.; second, Jessie, Greer; third, Gray Belle, Merrill.

Jennies 4 years old or over—First, Black Belle, Jr., Merrill; second, Miss Yager, Eaton & Hughes; third, Puss, Greer.

Jennies 3 years and under 4—First, Jennie Flood, Jr., Merrill; second, Miss Starlight, Dill Bros.; third, Blue May, Greer.

Jennies 2 years and under 3—First, Jennie Spot, Merrill; second, Gray Nell, Blevins.

Jennies 1 year and under 2—First, Marge Giant, Greer; second, Black Dinah, Merrill.

Jack or filly foal under 1 year—First, Miss Bourbon, Dill Bros.; second, Han-

niban Giant, Greer.

Get of sire, four animals under 4 years, get of a registered jack—First, get of Frenchy, Merrill; second, get of Baby Giant, Greer; third, get of Pay Down, Yost.

Produce of dam, two animals under 1 year, produce of one jenny—First, produce of Jennie Troxel; second, produce of Lady Betty, Greer.

HACKNEY HORSES.

Open Class.

Exhibitors—Edgar J. DePue, San Francisco, Cal.

Mares 4 years or over and foal at feet. First, Julep and foal, DePue.

State Class.

Mares 4 years or over and foal at feet—First, Julep and foal, DePue.

QUARANTINE FOR SHEEP SCABIES LIFTED FROM ENTIRE STATE OF UTAH ON AUGUST 24.

The Department of Agriculture has given notice that inasmuch as the counties of Carbon, Emery and Grand, in the State of Utah, are now free from the disease known as scabies among sheep, the quarantine against these counties has been lifted, effective August 24, 1914. This frees the entire State of Utah from the quarantine for sheep scabies. The only territory remaining under federal quarantine for this disease consists of the western portion of California, the southeastern portion of Colorado, and the entire State of Texas.

The result in Utah has been accomplished by an effective State law passed by the Utah Legislature in 1913 for the eradication of live stock diseases, and through active co-operation under that law on the part of the State Board of Sheep Commissioners with the United States Department of Agriculture. For over 12 years prior to the passage of the law the state and federal authorities had been working to eradicate sheep scabies from Utah, but with unsatisfactory results.

SHEEP

Sheep at the California State Fair

The sheep classes at California State Fair were better filled this year than usual, more breeds were represented, and the exhibits were of uniformly high excellence. There was an unusually strong public interest in sheep this year, and conversation around the pens indicated a very large demand for breeding stock with not a great deal available at present in California flocks.

Bishop Bros. carried away both championships in the Shropshire classes, although hard pressed by Hillcrest flock, owned by Thornton Glide.

Besides showing some very choice Shrops Mr. Glide had an unusually good exhibit of Dorset Horns, one of his Dorset ewes being an outstandingly good individual.

Bullard Bros. put up a fine showing from their world famous Rambouillet flock and Kaupke Bros. brought out a fine representation of Hampshires. University Farm showed a select lot of Cheviots and won without competition.

THE AWARDS.

SHEEP AND GOATS.

Exhibitors of sheep: Bullard Bros., Woodland, Cal.; Bishop Bros., San Ramon, Cal.; University of California, Davis, Cal.; T. S. Glide, Davis, Cal.; Kaupke Bros., Woodland, Cal.

Rambouillets.

Champion ram—A. A. Wood & Son 1035, Bullard.
Champion ewe—A. A. Wood & Son 909, Bullard.

Ram 2 years old or over—First, A. A. Wood & Son 1035, Bullard Bros.; second, A. A. Wood 1059, Bullard Bros.
Ram 1 year and under 2—First, A. A. Wood & Son 1250, Bullard Bros.; second, A. A. Wood & Son 1403, Bullard Bros.

Ram under 1 year—First, E. A. Bullard 255, Bullard Bros.; second, E. A. Bullard 257, Bullard Bros.

Ewes 1 year and under 2—First, A. A. Wood & Son 1310, Bullard Bros.; second, A. A. Wood & Son 1331, Bullard Bros.

Ewes under 1 year—First, E. A. Bullard 254, Bullard Bros.; second, E. A. Bullard 256, Bullard Bros.

Flocks to consist of one ram, any age, two ewes 1 year and under 2, and two ewes under 1 year—First, Bullard Bros.

Pen to consist of four lambs, either sex, bred and owned by the exhibitor—First, Bullard Bros.

Shropshires.

Champion ram—Bishop 125, Bishop Bros.
Champion ewe—Bishop 184, Bishop Bros.

Ram 2 years or over—First, Bishop 125, Bishop Bros.; second, Hillcrest Royalist, Glide.

Ram 1 year and under 2—First, Bishop 223, Bishop Bros.; second, Bishop 231, Bishop Bros.; third, Lord Cavendish, Glide.

Ram under 1 year—First, Bishop 246, Bishop Bros.; second, Hillcrest Lad,

Glide; third, Hillcrest Hero, Glide.

Ewe 2 years old or over—First, Cavendish 209, Bishop Bros.; second, Gaiety Girl, Glide; third, Maggie, Glide.

Ewe 1 year and under 2—First, Bishop, Bishop Bros.; second, Bishop Bishop Bros.; third, Milady, Glide.

Ewe under 1 year—First, Bishop 289, Bishop Bros.; second, Peggie, Glide; third, Bishop 286, Bishop Bros.

Shropshire flocks to consist of one ram, any age; two ewes 1 year and under 2, and two ewes under 1 year—First, Bishop Bros.; second, Glide.

Shropshire pen to consist of four lambs, either sex, bred and owned by the exhibitor—First, Bishop Bros.; second, entry of Glide.

Cheviots.

Ewe 1 year and under 2—First, California 170, University of California.

Hampshires.

Champion ram—California 214, University of California.

Champion ewe—California 215, University of California.

Rams under 1 year—First, California 214, University of California; second, Cholderton 19, Kaupke Bros.; third, University of California.

Ewes 2 years old or over—First, F. O. S. Company, Kaupke Bros.; second, Oak Ewe 6, Kaupke Bros.

Ewe under 1 year—First, California 215, University of California; second, Kaupke Bros. 24, Kaupke Bros.; third, Kaupke Bros. 23, Kaupke Bros.

Hampshire flock to consist of one ram, any age; two ewes, 1 year and under 2, and two ewes under 1 year—First, Kaupke Bros.

Hampshire pen to consist of four lambs, either sex; bred and owned by exhibitor—First, Kaupke Bros.

Southdowns.

Champion ewe—University of California.

Southdown ewe under 1 year—First, California 204, University of California; second, California 217, University of California.

Dorset Horns.

Champion ram—Glide.

Champion ewe—Glide.

Ram 1 year and under 2—First, Gunboat, Glide.

Ewes 2 years old or over—First, Symond's Bury Queen, Glide; second, Dorset Pride, Glide.

Ewes 1 year and under 2—First, Flower's Girl, Glide; second, Miner's Best, Glide.

Ewe under 1 year—First, Hillcrest Queen, Glide; second, My Queen, Glide.

Dorset Horn flock to consist of one ram, any age; two ewes, 1 year and under 2, and two ewes under 1 year—First, second and third, Glide.

Merino Type.

Merino type, pen of three rams, 2 years old or over—First, Bullard Bros.

Merino type, pen of three rams, 1 year and under 2—First, Bullard Bros.; second, Glide.

Merino type, pen of three rams, under 1 year—First, Glide; second, Bullard Bros.

Merino type, pen of three ewes, 2 years old or over—First, Bullard Bros.

Merino type, pen of three ewes, 1 year and under 2—First, Bullard Bros.

Merino type, pen of three ewes, under 1 year—First, Bullard Bros.; second, Glide.

Middle Wool Type.

Middle wool type, pen of three rams, under 1 year—First, Bishop Bros.; second, Glide; third, Glide.

Middle wool type, pen of three ewes, 2 years old or over—First, Bishop Bros.

Middle wool type, pen of three ewes, 1 year and under 2—First, Bishop Bros.

Middle wool type, pen of three ewes, under 1 year—First, Bishop Bros.

Middle Wool Breeds.

Champion wether—University of California.

Grand champion wether—University of California.

Middle wool breeds, wether, 1 year and under 2—First, California 191, University of California; second, University Farm 0306, University of California; third, University Farm 307, University of California.

Middle wool breeds, wether, under 1 year—First, California 216, University of California.

Middle wool breed, pen of three wethers, 1 year and under 2—First, University of California.

Angora Goats.

Exhibitors: Florence Kite, Redding, Cal.; Winthrop Howland, Redlands, Cal.

Angora buck, 2 years old and over—First, General Beauregard, Kite; second, General Lee, Kite.

Angora buck, under 2 years and over

it has the "Kick"



RED CROWN

the
Gasoline of
Quality

Not a mixture but
a straight product
of refining

Standard Oil Company (CALIFORNIA)

1—First, Shasta, Kite; second, Buster, Kite.

Angora buck, under 1 year—First, Bill, Kite; second, Jack, Kite.

Angora doe, 2 years old or over—First, Kite No. 48 Kite; second, Kite No. 73, Kite.

Angora doe, under 2 years and over 1—First, Kite No. 72, Kite; second, Kite No. 71, Kite.

Angora doe, under 1 year—First, Kite No. 119, Kite; second, Kite No. 118, Kite.

Milch Goats.

Champion buck—Kid Devlin, Howland.

Grand champion doe—Howland.

Milch buck kid—First, Devlin, Howland.

Milch doe, 2 years old or over, to be shown in milk—First, Geneva, Howland.

Milch doe, 1 year old and under 2—First, Delia, Howland.

Milch doe kid—First, Dixie, Howland; second, Sis, Howland.

WARNING AGAINST CHEAP LOAN SCHEME.

Some one recently remarked that it was astonishing how hard some men were willing to work in order to make a dishonest living. The field of rural credit is already producing a number of examples. Certain companies are actively at work promising farmers cheaper money than anybody else is able to get on equally good security. The eagerness with which

some are accepting the bait is one indication of the need there is for a sound system of rural credit. It is not wholly the fault of the farmer who is taken in. A great deal of mental energy, combined with marvelous skill, is expended in preparing soul-compelling circulars which seem to promise the farmer everything, but really promise him nothing. If as much thought and skill were exercised in trying to convert sinners, we should be very near the millennium.

Stripped of verbiage and words which darken rather than enlighten, the scheme is essentially as follows: Such a company offers to lend you money on good security at, say, 3 per cent interest, and to allow you to repay the loan in easy monthly installments on the amortization plan. This sounds alluring, and, if you are not too persistent in asking what you are to get and when you are to get it, you sign an application for a loan on these favorable terms. In a few days you receive from such a company a contract for the loan for which you applied. The contract which you receive is duly signed by the officers of the company. Then you realize that the application signed by you and the contract

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Champion Dorset Horn Ram and Ewe. Owned by
T. S. Glide, Davis, Cal.

SHEEP WINNERS AT 1914 CALIFORNIA STATE FAIR.

Shropshire Rams owned by Bishop Bros.,
San Ramon, Cal.

Rambouillet Ram owned by Bullard Bros. Photos by McCurry.

signed by the officers of the company together constitute a valid contract, and that you are now in for it.

Under the terms of the contract you are to begin at once paying off the debt of, say, \$1,000 at the rate of \$10 a month, but you have not got your \$1,000 yet. Moreover, you do not know just when you will get it. The only thing you know is that you have got to go right on paying \$10 a month. You have, however, the promise that whenever the company has the money to spare, you will get your loan. Another way of saying the same things is that when your turn comes, you will get it. This means that such a company has not got the money now, and that there are several other gentlemen whose turns come before yours. As fast as the company gets money it lends it out to these men each in his turn. When your turn comes, if the company lasts that long, you will get your money.

Now, where does this kind of company get the money which it is going to lend to you and the other gentlemen who have signed these contracts? Why, it gets it from you and those same gentlemen, and from no one else. Speaking to all of you collectively, it says, in effect, "Gentlemen, this company has no money of its own, but if you will pay your money into its treasury, we will then be glad to lend it back to you, if you will give good security, on very favorable terms, indeed."

If such a company ceased getting new contracts, it could not lend you your thousand dollars until you had paid in a thousand. It has no other source of income, and it can not create something out of nothing. If it continues to get new contracts after yours, then it can take the money paid in by those who follow you to lend to those who precede you. In this way your turn may come before you have paid in quite the full amount which you expect to borrow. But those who follow you will have to wait still longer on that account. If new applicants should sign up rapidly and in large numbers, and begin paying their good money into the company, the company may then be able to give you your loan tolerably early. But that only postpones the evil day. Those who follow you in such numbers, will have to wait longer and longer, unless the applicants should continue increasing in a geometrical ratio. But the longer this sort of thing goes on the greater will be the smash when it comes.

Unless you have been initiated into the mysteries of geometrical progression you may imagine that this sort of thing can go on indefinitely, but if you will take your lead pencil and figure awhile you will find that in order that you may get your loan within a year there must be about 10 times as many applicants next year as there were this. In order that they may get their loans within a year, there must be 10 times as many applicants the following year as next year, and so on indefinitely. Now, if there are 1,000 applicants waiting for loans this year, in 10 years there

would have to be, at this rate, 10,000,000,000,000 new contracts in the tenth year. This is nearly seven thousand times the present population of the earth.

But if you and all the applicants are willing to wait five years for your loans it would only take 1,024,000 new contracts in the tenth year to keep the company going. By the thirteenth year there would have to be 8,192,000 new applications. There are about 6,500,000 farms in the United States. If there were several companies like this operating on our farmers, you can see that the competition among them would, by that time, become what might be called severe.

But why mince matters? Everyone who has ever studied the question knows perfectly well that this sort of business is foredoomed to failure. There are only two possible conditions under which it can possibly last, and both these conditions assume a degree of foolishness on the part of the American farmer of which even his worst enemy would not accuse him. One is that he will be willing, in considerable numbers, to continue paying his monthly installments into the treasury of the company until he has actually paid in as much as he expects to borrow back. A savings bank would be better, because it will allow him interest on what he pays in, and when he draws out what he has paid in, he does not have to pay any interest, not even 3 per cent. The other is that so many of those who begin paying in their monthly installments will get tired of their bargain and quit, as to enable the company to take their money and make loans to the few who stick to it. If 9 out of every 10 who pay in money stop before they get their loans, the company may then make its loans within a reasonable time to the troublesome one who sticks to them. Under no other condition whatever can such a company last many years. One can predict its failure with the same certainty that one can predict the death of a human being. In neither case can one predict the day and hour, but that the event itself will occur within a namable period is absolutely certain.

If, instead of paying \$10 a month into the treasury of one of these companies, one were to deposit \$10 a month in a savings bank, which would allow him interest month by month on all his deposits, the following table shows what he would have to his credit at the end of each year.

The first column shows what he would have to his credit in a savings bank that allowed him 3 per cent; the second column shows what he would have to his credit in a savings bank that allowed him 4 per cent. It will be noticed that in either case, by the end of the fourth year, he would have to his credit more than \$500.

End of—	3%.	4%.
First year	\$121.95	\$122.60
Second year	247.56	250.10
Third year	376.94	382.70
Fourth year	510.20	520.61
Fifth year	647.46	664.03
Sixth year	788.83	813.19
Seventh year	934.44	968.32
Eighth year	1,084.42	1,129.65
Ninth year	1,238.90	1,297.44
Tenth year	1,398.02	1,471.94
Eleventh year	1,561.92	1,653.42

MANY APPLICATIONS FOR SHORT COURSES.

Dean Van Norman of California State Farm reports that more applications have been received for admission to the short courses for practical farmers at the University Farm from October 5th to November 14th than at this time a year ago. The fact that each individual lecture and demonstration has been scheduled for a definite hour and day has met with much appreciation. One farmer and his wife have applied for camping accommodations in order to attend the short courses.

One wife has written to the University Farm that since her husband cannot leave the farm work she is coming in his behalf to take courses containing the information her husband most needs for practical use on his farm.

HEAVY DEMAND FOR HILLCREST STOCK.

In a recent letter to the Journal, Thornton S. Glide, proprietor of Hillcrest Stock Farm, Davis, Cal., writes that the demand for all classes of stock is more than he can fill. He is entirely sold out of French Merino and Shropshire rams, but still has a few Shorthorn bulls.

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1000 Ewes

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SAN RAMON SHROPSHIRE FLOCK

PRIZES WON BY FLOCK, 1912:

California State Fair—Six firsts, Champion Ram and Champion Ewe.
Oregon State Fair—Two firsts, Champion Ram and Champion Ewe.
Spokane (Wash.) Interstate Fair—Five firsts, Champion Ewe.
Boise (Idaho) Intermountain Fair—Eleven firsts, Champion Ram and Ewe over all breeds.

PUREBRED AND REGISTERED SHROPSHIRE RAMS FOR SALE. INDIVIDUAL OR CARLOAD LOTS.

Bishop Brothers, San Ramon, California



First Prize Ram Lamb
at Omaha.



First Prize Ewe Lamb
at Omaha.

BEEF CATTLE

Beef Cattle at the State Fair

The Shorthorn show this year was, as usual, the dominant factor in the beef cattle classes, and there were good specimens from a number of herds on show.

Thornton Glide's Hillcrest herd was in the hands of that artist at fitting and showing. Norman Hale, and all championships were won by this herd.

Tom Gibson was back again after having stayed away last year, and was strong in both the individual classes and in herd entries. His bull Ringleader, a son of the great Ringmaster, won first handily in his class, and met with great favor at the ringside.

The Howard Cattle Company had a good herd on exhibition, and contended strongly in nearly all classes.

Hopland Stock Farm made their first showing this year, and performed creditably. This herd has been in the capable hands of Ed Brown during the past year, and with a splendid foundation to work upon, the herd will make a much stronger showing at the time of its next appearance.

In the Hereford classes, Simon Newman Co. had things practically their own way, and the herd was as usual in prime condition to meet all comers. Bob Dunlap has accomplished a great deal with the Newman herd, and no matter whether competition is present or lacking, the herd always puts up a showing that is of great value to the breed in general.

THE AWARDS. SHORTHORNS. Exhibitors.

Thornton S. Glide, Davis, Cal.; T. B. Gibson, Woodland, Cal.; Hopland Stock Farm, Hopland, Cal.; Howard Cattle Company, San Francisco, Cal.

Junior champion bull—Mysie's Knight, Glide.

Senior champion bull—Greenwood King, Glide.

Grand champion bull—Greenwood King, Glide.

Junior champion cow—September Morn, Glide.

Senior champion cow—Lady Perfection, Glide.

Grand champion cow—September Morn, Glide.

Bulls 3 years old or over—First, Ringleader, Gibson; second, College Count 3rd, Howard.

Bulls 2 years old and under 3—First, Greenwood King, Glide.

Bulls, senior yearlings—First, Hillcrest Knight, Glide; second, Fond Lavender, Howard.

Bulls, junior yearlings—First, College Count 20th, Howard.

Bulls, senior calves—First, Mysie's Knight, Glide; second, Roselawn Choice 81st, Gibson; third, Hopland Tom, Hopland Stock Farm; fourth, Roselawn Prince 82nd, Gibson; fifth, Harvardian, Howard Cattle Co.

Bulls, junior calves—First, Lancaster King, Glide; second, Winsome Prince, Howard; third, Roselawn Favorite 84th, Gibson; fourth, Hopland Master, Hopland Stock Farm; fifth, Promise, Howard.

Cows 3 years old or over—First, Greenwood Maid, Gibson; second, Little Missus 6th, Howard; third, Flower Girl 14th, Glide.

Cows 2 years old and under 3—First, Lady Perfection, Glide; second, Roselawn Queen 5th, Gibson; third, Winsome Countess, Howard.

Senior yearling heifers—First, Mary Lancaster, Glide; second, Little Missus 7th, Howard; third, Blossom Countess, Howard.

Junior yearling heifers—First, Snow Girl's Queen, Hopland Stock Farm; second, Spicy Maid, Glide; third, Elgitha's Queen, Hopland Stock Farm.

Senior heifer calves—First, September Morn, Glide; second, Hopland Lass, Hopland Stock Farm; third, King's Lassie, Glide; fourth, Ringleader's Violet, Gibson; fifth, Roselawn Daisy 73rd, Gibson.

Junior heifer calves—First, Hillcrest Countess, Glide; second, Ramona Miss, Howard; third, Hopland Gay Lass, Hopland Stock Farm; fourth, Ringleader's Beauty 81st, Gibson; fifth, Roselawn Belle 77th, Gibson.

Aged herd—First, Glide; second, Gibson; third, Howard.

Breeder's young herd—First, Glide;

second, Hopland Stock Farm; third, Howard.

Calf herd—First, Glide; second, Gibson; third, Hopland Stock Farm.

Get of sire—First, Glide; second, Hopland Stock Farm; third, Gibson.

Produce of dam—First, Glide; second, Glide; third, Gibson.

Awards in the Shorthorn State Class were the same as the awards in the open class as above.

HEREFORDS.

Exhibitors.

Simon Newman Co., Newman, Cal.; University of California, Davis, Cal.

Junior champion bull—University Prince, University of California.

Senior champion bull—Young Donald, Newman.

Grand champion bull—Young Donald, Newman.

Junior champion cow—Lenora D., Newman.

Grand champion cow—Lenora D., Newman.

Bulls 3 years old or over—First, Young Donald, Newman.

Bulls 2 years old and under 3—First, Hesiod Lad, Newman.

Bull, junior yearlings—First, Newman's Crest, Newman.

Bull, senior calf—First, Donald's Signet, Newman.

Bull, junior calf—First, University Prince, University of California.

Cows 3 years old or over—First, Lenora B., Newman; second, Sugar Plum, Newman.

Cows 2 years old and under 3—First, May Queen, Newman.

Junior yearling heifers—First, Silver Fern, Newman; second, Lenora C., Newman.

Senior heifer calves—First, Pearl Gem, Newman.

Junior heifer calves—First, Lenora D., Newman.

Aged herd—First, Newman.

Breeder's young herd—First, Newman.

Calf herd—First, Newman.

Get of sire—First, get of Young Donald, Newman.

Produce of dam—First, produce of Lenora B., Newman; second, produce of Pride of Humboldt 24th, Newman.

FAT CATTLE.

Shorthorns.

Exhibitors—University of California.

Shorthorn steer or spayed heifer, 1 year and under 2—First, Snowball, University of California.

Herefords.

Exhibitors—Simon Newman Co., Newman; University of California, Davis, Cal.

Champion steer or spayed heifer—First, California Hope, University of California.

Steer or spayed heifer, 2 years and under 3—First, Chief Lad, Newman.

Steer or spayed heifer, 1 year and under 2—First, Prince Donald, University of California.

Steer or spayed heifer, 6 months and under 1 year—First, California Hope, University of California.

Aberdeen Angus.

Exhibitors—University of California, Davis.

Champion steer or spayed heifer—First, Thicket Boy, University of California.

Aberdeen Angus steer or spayed heifer, 2 years and under 3—First, Thicket Boy, University of California.

Aberdeen Angus steer or spayed heifer, 1 year and under 2—First, Black Prince, University of California.

Grades and Crosses.

Exhibitors—T. S. Glide, Davis, Cal.; University of California, Davis.

Champion steer or spayed heifer—First, California Choice, University of California.

Grand champion steer or spayed heifer, any age or breed—First, Thicket Boy, University of California.

Grades and crosses, steer or spayed heifer, 2 years and under 3—First, Eddie, Glide.

Grades and crosses, steer or spayed heifer, 1 year and under 2—First, Maxwell King, Glide.

Grades and crosses, steer or spayed heifer, 6 months and under 1 year—First, California Choice, University of California; second, Ruddy, Glide; third, Glide.

RED POLLED.

R. R. Cartwright was back with us again with his favorite herd of Red Polled cattle, and while he had no competition the herd was in condition to show to good advantage.

THE AWARDS.

RED POLLED.

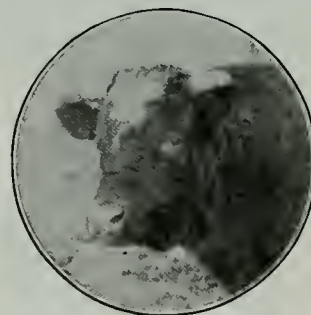
All awards to Reevy R. Cartwright, Angels Camp, Cal.

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Hopland Stock Farm Registered Shorthorn Bulls

Ready for Service, Range or Otherwise.
SHROPSHIRE SHEEP and BERKSHIRE
HOGS. HUNGARIAN PONIES, saddle or
harness. Prices on application.
HOPLAND, CAL.

HILLCREST STOCK FARM

Davis, California

Shorthorn Cattle
Shropshire and
Merino Sheep



HILLCREST LAD.
First Prize Ram at State Fair, 1911.

THORNTON S. GLIDE
DAVIS, CALIFORNIA

METHODS OF CALCULATING SIZE AND COST OF HOME- MADE SILOS.

Methods of calculating the proper size and cost of silos are given in a recently issued Farmers' Bulletin (No. 589), "Home-made Silos." The bulletin, which may be had free on application to the department, consists of 47 pages, with 37 figures and diagrams, and gives explicit directions for the home construction of concrete, stave and modified Wisconsin silos.

The concrete silo, says the bulletin, has the advantage of the other two in permanency and stability. A well-constructed concrete silo will last indefinitely; there is no danger of its blowing or burning down, rotting out, or being attacked by vermin. Little attention is required to

keep the structure in good condition. The chief objection to the concrete silo is its cost.

A 900-pound cow will ordinarily consume 30 pounds of silage a day; a 1,200-pound cow about 40 pounds. Yearlings will eat about one-half as much as mature animals; fattening cattle, 25 to 35 pounds for each 1,000 pounds live weight. A sheep will take about one-eighth as much as a cow. Horses should be limited to 15 to 20 pounds daily.

In general, the depth of the silo should not be less than twice nor more than three times the diameter. The greater the depth the better the silage, on account of the pressure from above. If less than 24 feet in height the quality of silage will not be the best. A very great height, however, is to be avoided on account of the excessive amount of power required to elevate the cut corn into the silo.

Don't forget to provide dry, warm, well-ventilated hog houses.

New Meat Inspection Regulations

The Department of Agriculture has issued, to take effect November 1, 1914, revised regulations governing the inspection of meats which enter into the interstate or foreign commerce of the United States. These new regulations provide that, if any slaughtering establishment violates same, it may suffer the penalty of having the federal inspection withdrawn. This will result in better sanitary conditions at packing-houses. The rule regarding ante-mortem inspection has been changed so that animals in which there is clear evidence, on ante-mortem inspection, of the existence of disease which unfits its meat for food, must be slaughtered in a separate place. The most important change is in the handling of the meat from animals where the disease is in strictly localized cysts or lesions. Such meat can now be sterilized and thoroughly cooked, and sold in cans or sealed containers, labeled "second-class sterilized." The sterilized meat which the packers are to be permitted to sell as "second-class sterilized" is the meat of portions of animals the fat of which the old regulations permitted the packers to make into edible lard and tallow. The process of rendering served to sterilize the fat and make it entirely hygienic. The new plan extends the same principle so as to utilize the lean portions of this meat, which heretofore packers have not been allowed to sell for food purposes. This action follows scientific investigations made by specialists of the department, and by independent veterinarians and physiologists, which have made it clear that large quantities of meat, which are perfectly good food when thoroughly cooked, have been condemned because of the presence of strictly localized cysts or lesions in animals. This meat is of the type which the German and Austrian government have long permitted their packers to sterilize by cooking and sell at shops in a cooked condition.

This regulation is most timely, in view of the fact that every pound of meat condemned necessarily adds to the cost of that which is passed, and it will serve to reduce the large percentage of losses which packers take into account in buying live stock and selling its products.

While our domestic production of meat is rigidly inspected, foreign meats which come into this country are not subject to so efficient supervision. It is practically impossible for our federal inspectors to make as thorough examination at the ports of entry of imported frozen or chilled meats as is made at the slaughtering establishments in this country, where diseased parts can be readily detected. Therefore, this country has to depend largely on foreign inspection which, it has been repeatedly claimed, is not so thorough and careful as in this country. Our Resolution No. 14, adopted at our last annual meeting, refers to this matter, and it is receiving proper attention by your officers.

Committee Appointed to Study Meat Situation.

In December of 1913, Secretary of Agriculture Houston appointed a special committee of five to study the economics of the meat situation, including methods for improvement in live stock conditions and increasing production. Said committee has outlined a very comprehensive plan of work, has appointed several sub-committees, and has delegated to the various bureaus of the Department of Agriculture the collection and preparation of data. The forest service has been requested to investigate and report on methods of utilizing and increasing the carrying capacity of the ranges, and in co-operation with the Bureau of Animal In-

dustry, to report on the cost of producing meat animals on the ranges. Forester Graves has sent a letter to many representative stockmen, asking for detailed information as to cost of production of stock on the range, and it is important that those who receive his request should be careful to supply accurate information.

Among other committees appointed is one to investigate and report on the distribution and sale of meat products through wholesalers and retailers. In view of the continuous clamor about high prices of meats, this investigation of retail prices, and the difference between what the producer receives for live stock and what the consumer pays for the product, will be most interesting. Prices for live stock are high, but retail prices seemed to have advanced relatively higher than live stock. Former Secretary of Agriculture Wilson conducted a similar investigation about retail prices in 1909, and found that the retail business was overdone, and that the retail service was unnecessarily costly, which of course was charged up to the consumer.

The various committees appointed on this matter will make their report in January, 1915, when a general conference will be held to consider the whole subject, at which this association will be represented.

Increase in Grazing Charges on National Forests.

For some time there has been complaint, on the part of the sheepmen using the national forests, that the ratio of the grazing charge between cattle and sheep was not fair and equitable—that sheep were paying relatively more than cattle. This question has been considered by the officials of the national forests, and we are advised by Mr. A. F. Potter, associate forester, Washington, D. C., that a revision of the present charges is contemplated, to take effect for the year 1915. The charges now in effect on sheep are substantially on the basis of 30 per cent of the cattle charge; it is now proposed to make the ratio 25 per cent. For example, on national forests where the grazing rate for cattle is now 45 cents and for sheep 13½ cents, the cattle rate will be advanced to 54 cents and the sheep rate would remain at 13½ cents, or 25 per cent of the cattle charge—four sheep to one head of cattle. This is an advance of substantially 20 per cent in the cattle rate.

In the letter from Mr. Potter advising us of this proposed change, and the reasons therefor, he says:

"The reasons for this change are that a careful check on the cost of administration in enforcement of the regulations on the range has shown the cost in connection with the management of cattle to be proportion-

ately higher than had been figured on in the past, and that the larger proportion of the money expended for improvements has been for drift fences, trails, and other improvements which benefit the cattle owners more than the sheep owners. Also, it has been found that the damage to young forest growth by sheep has been materially reduced during the past few years through the adop-

tion of improved methods of herding."

The question of this increase has been presented to the advisory boards on all the national forests, and their replies will receive the attention of our national advisory board and our committee on forest reserves and grazing lands, and proper recommendations will be submitted to the Secretary of Agriculture and the officers of the forest service, who have prom-



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GREENWOOD MAID AND DAUGHTER.
First Prize Shorthorn Cow 3 years and over at 1914 California State Fair. Owned by T. B. Gibson.

LENORA D.
Grand Champion Hereford Cow. Owned by Simon Newman Co.

Photos by McCurry

ised to consider our suggestions carefully. We shall be glad to hear from any of our members on this subject.

Under the new regulations of grazing on the national forests, local associations may, through their advisory boards, adopt and request the enforcement of special rules designed to secure better management of stock on the range, and such rules, when approved by the district forester, will be enforced and binding upon all permittees using the range, whether members of the local association or not. Heretofore it was necessary for a majority of the permittees to approve any change, and the opposition of the minority outside of the local association frequently made it difficult to secure needed improvements. Now all are required to contribute a proportionate share of the expenses involved.

Land Legislation.

Our letters to members of May 4th contained full information about land legislation in Congress. Nothing encouraging has developed since then. There is no prospect for the passage, at the present session of Congress, of Joint Resolution 250, which directs the Secretary of the Interior to make an approximate classification of the remaining public domain, and but little likelihood of the passage of the Ferguson 640-acre grazing homestead bill. There are two bills pending before the committee on public lands in the House of Representatives, providing for summer residence homesteads on forest reserves of from ten to forty acres each, but neither of the bills has been considered by the committee.

Valuations in Live Stock Contracts.

In our circular letter of May 4th there are quoted in full the terms of Senate Bill 4522 (Cummins Bill) and H. R. 10309 (Borland Bill) to prevent limitation of values in railroad shipping contracts. Since then the main provisions of said bills have been incorporated into H. R. 16586, "To amend Section 20 of the Act to Regulate Commerce to prevent over-issues of securities by carriers and for other purposes"—commonly known as the Stock and Bond Bill. This latter bill passed the House of Representatives on June 5th, was sent to the Senate, and referred by the Senate on June 6th to the committee on interstate commerce. That committee, among other changes, substituted the Cummins Bill for the somewhat similar provision in H. R. 16586, and favorably reported said bill to the Senate on July 23d, Report No. 706, and it is now on the Senate calendar. It is believed that the House of Representatives will accept the Senate changes and that the bill will be passed at the present session of Congress.

Meantime the case involving the limited-valuation clause in live stock contracts came up for hearing before the Interstate Commerce Commission at Colorado Springs on July 14th, 15th and 16th. At said hearing it was proved that the increased risk to the carriers in transporting live stock under the limited-contract values now stated in railroad live stock contracts, compared with the actual present value of meat-food animals, would not exceed, on the average, 15 cents per car. If Congress passes H. R. 16586, the Interstate Commerce Commission will be requested to postpone its decision in this case indefinitely, so that, if the railroads attempt to advance rates on account of the alleged increased liability, the burden of proof will be on them.

The 5 Per Cent Case—Rate Increase in Eastern Territory.

On July 29, 1914, the Interstate Commerce Commission rendered its decision in the eastern advance rate case (involving advanced rates which were published effective October 15, 1913, and were suspended), and permitted a 5 per cent increase in class

and certain commodity rates in central freight association territory—which is that section of the country east of Chicago and St. Louis, north of the Ohio river, and west of Buffalo and Pittsburg. The commission declined to approve the advance in Trunk Line and New England territory.

This was the second attempt of eastern railroads to secure an advance in their rates in official classification territory. The first attempt was made in 1910, when the railroads endeavored to secure a 10 per cent increase in their revenue, which the commission, after a very extended investigation, declined to allow.

About the same time, in 1910, the western railroads operating in what is known as the Western Trunk Line and Trans-Missouri territory—viz., that territory between the Mississippi river on the east and the mountains on the west—sought to secure a general increase in rates on about 200 different commodities, which the commission also declined to permit, in its decision of February 22, 1911. The contention of the railroads, in both cases in 1910, was that they were not receiving a fair return on their investment, but the commission thought otherwise.

Proposed Advance in Western Live

Stock Rates.

Ever since the second attempt of the eastern lines to secure an advance in rates, western railroads have been considering similar action, and their first advance—which is really a test case—was a general increase in live stock rates from Colorado, South Dakota, Wyoming, Utah, Idaho and parts of New Mexico to Missouri river, Chicago and other markets, ranging from $\frac{1}{2}$ cent to 5 cents per hundred pounds. The new rates were published to take effect April 1, 1914, but, on request of this association and other interested organizations, the rates were suspended until July 30, 1914, pending an investigation. The case came up for trial at Sioux Falls, S. D., on May 19th, and after three days' hearing was adjourned to Denver, and the rates were again suspended until January 30, 1915. The second hearing was held at Denver, commencing on July 27th and continuing for eight days. In this case the burden of proof is on the railroads to justify the advance. At both hearings there was much oral testimony and a great mass of exhibits presented. The case is now being briefed, and will be argued orally in Washington in October, and a decision will probably be rendered this fall.

Western railroads are also considering many other increases in their rates, and at a private meeting of their chief traffic officials, held at Chicago, in May of this year, it was decided to secure advances in rates by readjustment of the classification, to make specific advances in commodity rates, that lumber rates be increased 2 cents per 100 pounds, grain and grain products 1 cent per 100 pounds, coal and coke 10 cents per ton, and that on all other interstate traffic a horizontal advance of 10 per cent be made wherever possible. In addition to these advances the traffic officials decided hereafter to charge for many of the alleged special services which railroads now perform, such as spotting cars, absorption of switching charges, and charges for loading and unloading of live stock, etc.

The important western railroads are in a very much better financial condition than the lines operating in Central Freight Association or trunk line territory. Despite the increase in operating expenses, the surplus of western railroads continues to grow, and large sums are spent annually out of their current revenue for additions and betterments. With large crops, and consequently greater tonnage and increased earnings already

President Wilson:

"I was most gratified to hear of the nomination of former Mayor James D. Phelan for United States Senator. He has been in close touch with the administration in Washington, and has heartily supported the policies which have been inaugurated for the benefit of the people—

"Therefore, I appeal not only to Democrats, but to all independent citizens to rally to the support of the men who have expressed a willingness to sustain the administration and carry on the work designed for the benefit of all."

Woodrow Wilson



JAMES D. PHELAN

James D. Phelan was three times Mayor of San Francisco.

Prevented renewal of franchise of old Geary street railway, San Francisco, thus making present successful municipal line possible.

Appointed first woman who ever held an important public position in San Francisco.

Served as regent of the University of California.

Commissioner to secure re-enactment of the Geary Asiatic Exclusion Law.

Commissioner for Hetch Hetchy legislation before Congress to secure a mountain water supply for the cities around San Francisco Bay.

Commissioner to Europe by appointment of President Wilson to support the United States Government's invitation to foreign countries to participate in the Panama-Pacific Exposition.

Declined ambassadorship to one of the great European nations, preferring service at home.

Led in the fight for a new charter for San Francisco, which insured home rule, civil service reform, responsible government, municipal railroads.

Raised standard of pay for laborers in the city employ.

Head of the San Francisco Relief Committee in the disaster of 1906. Appointed by the President custodian of the relief fund aggregating \$10,000,000.

Worked and spoke before the Legislature for the enactment of an anti-alien land ownership law.

Experienced, capable and untrammelled, he would have but one client in Washington, the people of his native State.

Elect the man who can help California in Washington

in sight, it will be very difficult for western railroads to justify any increase in their charges. The West, and particularly the intermountain section, is already burdened with high freight charges on all its products.

The Los Angeles Switching Case.

The Supreme Court of the United States, on June 8, 1914, sustained the order of the Interstate Commerce Commission in the Los Angeles switching case, which directed the carriers to desist from making a switching charge for carload freight moving in interstate commerce to industrial spur tracks within the switching limits of Los Angeles. This decision will prevent the railroads from carrying out their plan to make a charge for certain alleged special services.

West-Bound Rates on Live Stock.

At our annual meeting held in Denver last January a resolution was adopted asking the railroads to reduce their west-bound rates on live stock from the intermountain region

to Pacific Coast points. After considerable correspondence, the railroads in Montana published tariffs making certain reductions in live stock rates. These reductions were not satisfactory, and at a later conference the railroads agreed to publish a lower basis, which will be put in effect shortly. Your officers now have up with interested railroads the question of reduction in west-bound rates from other sections of the West.

The two Arizona-California live stock rate cases were tried at Los Angeles on June 22d and 23d, and briefs have been submitted, and decisions are expected this fall.

In a decision rendered March 2, 1914, in the case of Wood-Bennett Company vs. San Pedro, Los Angeles and Salt Lake Railroad Company, the Interstate Commerce Commission held that rates on live stock depending on number of cars were unlawful, and directed their discontinuance and a revision of rates on single cars. This decision is very

important because the larger portion of live stock in the range country is always moved in more than ten cars to a single owner, and the withdrawal of the ten-or-more car basis means an advance in rates. This question is receiving the attention of your officers.

Imports of South American beef for the first half of 1914 aggregate about 400,000 quarters. This is less than one pound of beef for each consumer in this country. Imports from Australia and Canada have been so small as to be almost negligible in augmenting the per capita supply. Complaints about high prices of meat are as prevalent in Australia as in this country. The European war will undoubtedly result in less imports of meat products into the United States.

THE NATIONAL LIVE STOCK ASSOCIATION.

H. A. Jastro, President.
T. W. Tomlinson, Secretary.

DEMAND FOR REDWOOD SILOS ACTIVE.

During the past month a number of high-class farms in California have installed redwood silos for various feeding purposes. Among those designed and constructed by Redwood Manufacturers Company, San Francisco, are the following: One 20x40 Rancho Dos Rios, two 16x28 J. P. Dunne's San Felipe ranch, Hollister; one 12x30 Grove Hill farm, Hollister, owned by J. Lansing Lane; one 14x30 Hearst ranch, Pleasanton; one 14x36 Huston farm, Winters. The latter is the thousand-acre hog farm which is being developed in Yolo County.

Stockton---Lodi---Sacramento

8 TRAINS DAILY EACH WAY
Between Stockton and Sacramento
18 TRAINS DAILY EACH WAY
Between Stockton and Lodi.
BAGGAGE CARRIED ON ALL TRAINS

Central California Traction Co.



Southbound.	Leave No.	Leave Sac'm'to	Arrive Lodi	Arrive Stockton
7	7:10a	8:45a	9:00a	
13	9:10a	10:50a	11:05a	
17	10:15a	11:45a	12:05p	
23	12:15p	1:50p	2:05p	
29	2:10p	3:45p	4:00p	
35	4:10p	5:50p	6:05p	
41	6:20p	7:53p	8:10p	
47	9:00p	10:34p	10:55p	

Northbound.	Leave No.	Leave Stock'n	Leave Lodi	Arrive Sac'm'to
4	6:00a	6:00a	7:55a	
10	7:45a	8:00a	9:35a	
16	10:00a	10:05a	11:45a	
22	12:05p	12:20p	1:55p	
28	1:45p	2:05p	3:35p	
34	3:45p	4:05p	5:35p	
40	5:45p	6:05p	7:35p	
46	8:30p	8:40p	10:20p	

STOCKTON-Lodi SERVICE.

Leave Stockton, A. M.—6:10, 6:05, 7:00, 8:00, 9:00, 10:05, 11:05.

Leave Stockton, P. M.—12:15, 1:10, 2:00, 3:00, 4:05, 5:05, 6:05, 7:10, 8:30, 9:55, 11:20.

*Daily except Sunday.

Leave Lodi, A. M.—12:05, *6:05, 7:00, 8:00, 9:00, 10:05, 11:05.

Leave Lodi, P. M.—12:20, 1:00, 2:05, 3:00, 4:05, 5:00, 6:05, 7:00, 8:40, 9:10, 10:37.

*Daily except Sunday.

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Odd Fellows' Building.....Lodi
Hotel Stockton.....Stockton
Connections made at Sacramento with Northern Electric trains to and from Marysville, Oroville, Chico, Woodland and way stations, and at Herald with Amador branch trains.

At Stockton with Santa Fe for San Joaquin Valley points and Tidewater Southern Railway for Modesto and Way Stations.

When writing to advertisers it will be appreciated by both advertiser and publisher if you start your letter: "Referring to your advertisement in The Live Stock and Dairy Journal."

VETERINARY

Conducted by D. S. KAY, D. V. S.

Questions relating to the health of farm animals will be answered in this column free of charge. Address all communications to Veterinary Department, The Live Stock and Dairy Journal, Sacramento, Cal.

PROTECTION OF WOUNDS OF ANIMALS AGAINST FLIES.

When an animal is wounded it is important to treat the wound in such a way as not to prevent its healing, and yet to prevent screw worms and house flies from attacking the open surfaces, laying eggs, or carrying infection to the animal.

The screw worm, particularly, deposits eggs in wounds, and there are other flies that may deposit their eggs in this way. The larvae or maggots hatching from these eggs infest the wound and burrow more or less extensively in the surrounding tissues, so that serious damage may result.

The housefly alights on wounds to suck up the exudate, and is a cause of considerable annoyance to animals. It prevents wounds from healing and may introduce agents of infection which adhere to its body.

The Department of Agriculture, in a bulletin on repellents for protecting animals from the attacks of flies quotes the following formulas for application to wounds:

Jensen gives three formulas of repellents for application to wounds:
Formula No. 1:

Oil of tar..... 8 ounces
Cottonseed oil to make...32 ounces

Formula No. 2:
Powdered naphthalin.... 2 ounces
Hydrous wool fat.....14 ounces

Mix into an ointment.

Formula No. 3:
Coal tar.....12 ounces
Carbon disulphid..... 4 ounces

Mix; keep in a well-stoppered bottle and apply with a brush.

Mixtures Nos. 2 and 3 are said to adhere to moist surfaces, and No. 3 is said, in addition, to form a coating over raw surfaces and protect from the screw-worm fly.

The editor at the close of the article in which the above formulas are given adds the following formula:

Oil of turpentine..... 1 dram
Phenol..... 1 dram

Cottonseed oil to make.. 4 ounces

Mix and apply freely to wounds.

It is stated that this remedy is highly effective and is used widely in the south. It is said to induce healthy granulation of wounds.

THE TEETH IN DAIRY CATTLE.

Written for The Live Stock and Dairy Journal by Dr. Leonard Keene
Hirshberg, A.B., M.A., M.D.

Disease and irregularities of the teeth of dairy cows cause a monetary loss in beef and milk that would be surprising if it were known. When the teeth are in perfect condition they grind the food in such a manner that it is easily acted upon by the digestive ferments and the essential elements necessary to repair the body waste and increase the flow of milk are readily assimilated; whereas when the teeth are diseased or irregularities are present you have a decrease of both milk supply and condition. The teeth of dairy cows probably require more attention than do those of horses, because by their methods of grazing stones, nails, wires and all sorts of hard substances may be brought into the mouth and are liable to break the teeth and bruise the gums.

Cows failing to reach the higher standards of milk production should not be discarded until a thorough examination is made of the teeth, for without perfect mastication of the food you cannot have perfect digestion and assimilation, and this is the basis of the milk supply.

The teeth are objects implanted in and protruding from the jaw bones, and contain 76½ per cent of earthy salts. They are harder than bones, and can bear friction and exposure, while bone can endure neither without becoming diseased. Three hard structures enter into the formation of teeth—dentine, enamel and cementum. Dentine is a hard yellow substance and contains the bulk of the earthy salts; enamel is the hardest animal texture, and contains about 96 per cent earthy salts, is white in color and when once destroyed is never reproduced. It is projective tissue covering the entire exposed surface, and in the molars is mixed with the other substances to furnish the rough projection for grinding purposes. Cementum or crusta petrosa, the third constituent, completely covers the embedded portion of the teeth. It is brownish-yellow in color, and closely resembles bone in structure. The proportion of earthy matter, the same as in bone, is about 67 per cent.

Teeth are of two kinds, incisors and molars, and each animal has two sets, namely, temporary and permanent. The incisors or front teeth are absent in the upper jaw, but a cartilaginous pad covered with mucous membrane acts as a substitute. In the lower jaw there are eight incisors. These teeth are chisel-shaped, convex in front and concave behind, and the exposed portions are covered with enamel. They are firmly attached, but still have a certain degree of mobility which prevents injury to the pad on the upper jaw. There are twenty-four permanent molars, six in each side of the upper and lower jaw. These are constructed of the same material as the incisors, but are cuboid in shape and the grinding surfaces are irregular and roughened.

In the young animal the wearing surfaces of the molars dovetail into each other perfectly, but as it continues to grow older these surfaces deviate from normal towards an oblique line, with the consequence that the outer layer of enamel of the upper and the inner layer of the lower teeth never come in wear, and in a short time these edges or points of enamel become long enough to interfere with perfect mastication by restraining the food from passing between the teeth and also by lacerating the mucous membrane lining the cheeks and covering the tongue. In some instances the first or last or both molar teeth are unnaturally long, giving to the row a semi-circular appearance. This is due to the opposite tooth being absent, or to misplaced or perverted growth, so that it does not come in wear.

Often times caries or decay of the teeth is found, and it is very common to find an opposing tooth very much elongated, which causes serious difficulty in mastication. Toothache which follows caries is diagnosed by the evidence of pain shown by the animal when drinking cold water or biting upon some hard object and also by salivation.

Ulceration of the roots of the teeth is frequently found, and is accompanied by abscess formation and toothache. Achinomycosis, more commonly known as lumpy jaw, by extension of its inflammation into the cavity in which the teeth are situated, causes ulceration, caries, loosening of the teeth and toothache.

Supernumerary teeth by pushing the regular teeth out of their normal position, interfere with mastication, and repeated attacks of indigestion with loss of condition and diminution of milk supply in most cases can be traced directly to imperfect mastication. The instruments used to correct conditions should be thoroughly sterilized, and a veterinarian should be employed, as his professional knowledge would prevent the spread of disease.

BLACK LEG

LUSSIES SURELY PREVENTED by Cutter's Blackleg Pills. Low-priced, fresh, reliable; preferred by Western stockmen, because they protect where other vaccines fail. Write for booklet and testimonials. 10-dose pkg. Blackleg Pills \$1.00. 50-dose pkg. Blackleg Pills 1.50. Cutter's Blackleg Pill Injector 1.50.

Discounts: 250 doses, 10 p. ct.; 500 doses, 20 p. ct. Use any injector, but Cutter's simplest and strongest. Every package dated, unused pills exchangeable for fresh after date on package. Do not use old vaccine (ours or any other), as it affords less protection than fresh. Insist on Cutter's. If unobtainable, order direct. Send check or M. O. We pay charges and ship promptly. THE CUTLER LABORATORY, Berkeley, California.

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A Safe, Speedy and Positive Cure for

Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunchea from Horses or Cattle.

As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

The Lawrence-Williams Co., Cleveland, O.

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PREVENTED AND CURED PERMANENTLY

YOUR COWS MADE PROMPT. REGULAR BREEDERS BY

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STOP LOSING CALVES

TREATMENT: If STERILOID is used at the first sign of abortion the cow will go

her full time and have a healthy calf. If your cows or heifers do not come in season, or fail to get with calf, use STERILOID. Cows get with calf after only one treatment. Write today for FREE BOOK. It explains the causes and symptoms of Abortion and tells how to cure Abortion, and make your cows regular, healthy breeders with STERILOID. Also contains letters from breeders who have used STERILOID successfully.

We will refund money in every case when STERILOID FAILS to make good. PRICE \$1.00, Mailed Postpaid, in plain wrapper.

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TEACH THE FARMERS TO MAKE MONEY PLAN OF SHORT COURSES.

To help the practical farmer to raise more to the acre and to make more money is the object of the "Farmers' Short Courses," which the University of California has now announced for this fall.

Farmers and their wives from all over California will gather at the University Farm at Davis from October 5 to November 14. There will be separate short courses in Agriculture, in Dairy Manufactures, in Horticulture and in Poultry Husbandry.

If a dairyman can increase his dairy production 5 per cent, if a farmer can increase his yield of barley two bushels an acre, if a rancher can save just one horse by what he learns of veterinary practice, then, says the University, he will be amply repaid for the time and expense of his six weeks' short course at the University Farm.

Here are some of the things that will be taught:

To judge live stock.

To immunize hogs, so that swine may be protected against hog cholera, which yearly causes California hundreds of thousands of dollars of unnecessary loss.

To test milk, so that the "boarder" cows which produce less value in butterfat than the value of their feed may be removed from the herd.

To make the highest quality of butter, cheese and ice cream—the supply of competent men to operate creameries is not equal to the demand.

To bud and graft, so that the fruit-grower may produce and modify his own plants as he may desire.

To mix and use insecticides and fungicides and to fight pests by spraying, fungating, etc.

To plant and care for citrus and deciduous orchards.

To pickle olives.

To hatch, rear, feed, breed and care for fowls, grow their feed and build poultry yard equipment.

To keep farm accounts, so that it may be plain where is the gain and where the loss in different farm operations.

To build irrigation equipment.

To perform simple surgical operations on farm animals.

To care for farm machinery.

The farmer who wanted to avail himself of all the opportunities offered would need to come to the Short Courses every year for three or four years. However, the 293 lectures and 258 practical exercises to be given during the Short Courses, between October 5 and November 14, have this year been planned in complete detail, so that the farmer may know the exact day and hour of each of these

demonstrations and avail himself of exactly what he wants. An announcement containing this complete schedule for this year's Short Courses will be sent to anyone who writes to the College of Agriculture at Berkeley.

Not the least of the benefits of these Short Courses, the University believes, is the contact at the University Farm with other progressive men, leaders in their respective communities, who have left their business for a short time to acquire new ideas.

Another advantage is the opportunity of seeing the splendid equipment of the University Farm, the herd of 200 Holstein-Friesians, Jerseys, Guernseys, Ayrshires, Herefords, Shorthorns and Aberdeen Angus; the flocks of Shropshire, Hampshire, Southdown, Cotswold and Merino sheep; the swine—Poland-China, Berkshire, Duroc-Jerseys, Tamworth, Chester White and large Yorkshire; the 363 varieties of grapes, growing in the twenty acres of vineyard; the many acres of orchards, and the unequaled equipment for the study of irrigation practice and the duty of water.

Dry-farming methods are thoroughly illustrated, too. During the two years ending June 30, 1913, the rainfall at the University Farm was only 18.3 inches, yet, without irrigation, the average yield of 63 experimental plots of wheat and 41 plots of barley was 39 bushels of wheat and 91 bushels of barley.

"Would it not be worth while," the University asks the farmers, "to come to the Short Courses at the University Farm and see how this was done?"

A. S. A. E. CREATING STANDARDS.

The statement has frequently been made that farm machinery is not designed so much as it is built by rule of thumb. The fact that practically all of it must do its work while traveling over the ground makes economy of power and light weight the first consideration. Frequently, the factor of safety in some important parts is cut to too low a point as a result and considerable experimenting is required before the machine, like the "one-hoss shay," is equally strong in every part.

It has been felt, however, by the manufacturers and educators who are members of the American Society of Agricultural Engineers, that some basic principles could be worked out in connection with farm machinery. The A. S. A. E. committee on standards has made a good start in this direction, but is first taking up some of the minor problems which cause a great deal of grief for both maker and user.

The question of standardizing parts so that the cost of repairs can be reduced is regarded one of first importance. Such matters as standard screw threads, height of wheel, width of tire and width of tread in wagons, plow sizes and shapes, singletrees, doubletrees and eveners for implements are all receiving attention by the committee, of which Prof. J. B. Davidson, of Iowa State College, is the active head.

The gas engine is receiving its share of attention, especially in connection with a uniform method of rating the horsepower. This will apply to both stationary and traction engines. Some progress is being made also in recommendations for standard ignition apparatus.

The A. S. A. E. is also studying the matter of catalogue sizes, hoping that farm machinery literature may some day be brought to a uniform basis, so that dealers, farmers, libraries, etc., can keep their files to better advantage. This has been done in some lines, partly the electrical, with great success.

The committee will present a splendid report at the December meeting of the society, and the papers will be printed in the annual volume of the society's transactions.

CLASSIFIED ADVERTISEMENTS

Rates: Two cents per word each issue. Minimum, 50 cents.

Classified Advertising payable in advance.

DAIRY AND STOCK FARMS.

Victoria, Australia, Wants Settlers

Special inducements; government land, railways; free schools; cheap irrigation; 31 years to pay for farms adapted to alfalfa, corn, grains, fruit, etc.; climate like California; ample markets; reduced passages; special excursions being arranged. Free particulars from F. T. A. FRICKE, Government Representative from Victoria, 687 Market St., San Francisco, Cal. Box V.

83 ACRES, out of which 65 are planted in alfalfa, irrigated; no improvements. 153 Acres, out of which 60 are planted in alfalfa, irrigated; no improvements.

56 Acres, all in alfalfa, irrigated. These lands are situated in the famous Oakley Homestead Tract, two miles from Wheatland, Yuba County. Soil is mostly rich bottom land. Prices range from \$150 to \$165 per acre.

A number of large stock and dairy ranches on hand in Yuba and Sutter Counties. Alfalfa land in 10, 20 and 40 acres and up.

In addition we are sole owners of Hallwood Irrigated Farms with the best system in the country. Unsold land in this tract especially adapted for rice, which has proven to be a splendid success.

No matter what you want we can please you. State your desires and we will take pleasure in giving you thorough description.

Remember, no trouble for us to answer questions. Write today to GOLDEN LAND & INVESTMENT CO., Marysville, California.

FOR SALE OR TRADE—Town lots and acre tracts in Bowers' New Addition, in the fast growing town of Davis, Yolo County, Cal. Will sell, or will trade for horses and mules. C. W. Bowers, Davis.

320 acres well-improved farm will be sold cheap if sold at once. 640-acre stock and dairy ranch, well improved and well watered. Will sell 50 head of cows and young stock with or without the ranch. For particulars write C. P. GOULD, Box 27, Parkfield, Monterey County, Cal.

FOR SALE—58 1-10 acres 2 1/2 miles from court house; 4 room house, bath, modern, hard finish, hot and cold water, all plumbing in. Well 31 feet deep, 17 feet water; windmill, 2000 gallon tank, pump, complete; barn; house has not been occupied. Price thirty-two hundred and fifty dollars, cash or terms. E. L. FREEMAN, Burbank Garage, Santa Rosa, Cal.

160 ACRES GOOD LAND—Free water to irrigate. Good home market, new buildings, on main road, near small town. Price, \$1800; 1-3 cash. This land grows hops and tobacco to perfection. For particulars address H. H., care The Live Stock and Dairy Journal, Sacramento, Cal.

DAIRYMEN—Are you looking for the following conditions? Abundant irrigating and domestic water, when and as you want it, at very low cost (38c per acre for six acre feet); richest loamy, easily tilled soil, containing abundant lime and phosphates, producing enormous crops of alfalfa, grains, fruits and vegetables. Level lands, but with sufficient grade to irrigate easily, that can be cleared and prepared for crops at small cost. Ideal conditions for live stock and poultry. Good markets and railroad transportation. Finest of health conditions, in pure, bracing air, in one of the finest climates in California. Good neighbors, schools and churches and solid banking facilities. The best proposition in the state at reasonable prices and on easy terms. If the above is what you really want, we can furnish it to you, and more too. For full information and printed matter call on or address G. M. REA, 630 H. W. Hellman Bldg., Fourth and Spring Sts., Los Angeles, Cal.

HARES.

THOROUGHbred BELGIANS, with or without pedigree. THE OLD HICKORY SUPPLY CO., Dept. 11, San Francisco and Los Angeles.

When writing to advertisers it will be appreciated by both advertiser and publisher if you start your letter: "Referring to your advertisement in The Live Stock and Dairy Journal."

Experiments indicate that most of the body increase of young pigs occurs at night.

To prevent thumps give the pigs plenty of exercise and do not overfeed them.

LIVE STOCK.

CHOICE young Jersey Bulls and Bull Calves. Some good cows. N. H. LOCKE CO., Lockeford, Cal.

PUREBRED REGISTERED PERCHERONS AND BELGIANS—A few choice young stallions from 3 to 5 years old. Also 2 and 3-year-old Percheron fillies for sale. LOS ALTOS STOCK FARM, Los Altos, Cal.

HOLSTEIN BULLS—Pure bred young Holstein bulls for sale on Thompson Ranch, near Napa. For prices and particulars, address J. B. Agee, Napa, Cal.

REGISTERED GUERNSEY BULLS—Six bull calves from one to five months old. All out of first-class cows, and by the following sires: Boopee's Mar of Iowa 22134, Imported Hayes Oliver 25149, Betha Glenwood of Pinehurst 17424, Rex Mar 19668, Imported Gay Lad 11 du Braye 12649, and Maxwell of Walter Maple 17330. Send for pedigree and price. EDMOOR FARM, Santee, Calif.

POULTRY.

FOR SALE—Pure Silver Laced Wyandottes, Buff Leghorns, Barred Rocks, Eggs. Mary Carlson, Camino, El Dorado Co., California.

BUFF MINORCA hatching eggs, \$2.00 and \$3.00 per 15; \$10.00 and \$15.00 per 100. Barred and White Rocks, Andalusians, R. I. Reds, eggs \$1.50 per 15, \$6.00 per 100. Runner Duck eggs, \$1.25 per 15, \$4.50 per 100. Buff Minorca cocks and cockerels for sale. Also have left two tricos. Get orders in soon. Valitors welcome. Cedarhurst Ranches, R. 2, Sacramento, Cal.

BABY CHIX AND EGGS—From grand laying strain of S. C. Rhode Island Reds. INWOOD POULTRY FARM, box 192, Folsom, Cal.

S. C. RHODE ISLAND REDS exclusively. Stock and eggs for sale in season. H. E. HILL, R. 6, Hanford Cal.

PRIZE HOUDANS—Catalogue now ready. MRS. EMMA F. REID, R. F. D. 4, Box 54, San Jose, Cal. Life member American Poultry Association.

BARRED PLYMOUTH ROCKS—Winners at Fresno, December 4-7, 1913, first and third pens; first, second, third and fourth pullets; third and fifth cockerels. Stock for sale, also eggs from above winning females. W. L. KENNEDY, Box 20B, Fowler, Cal.

INCUBATOR CHICKS—White, Buff and Brown Leghorn, Black Minorca, White Rock. All high-class stock. Send for booklet. H. S. KIRK, P. O. Box 597, Sacramento, Cal.

R. I. REDS exclusively. Eggs \$6 per 100; Chicks \$15 per 100. Cash with order or stamp for reply. L. W. Neilsen, R2, Box 1, Petaluma, Cal.

Rose Comb Brown Leghorn Cockerels, Single Comb Buff Leghorn Cockerels, \$1 each. Nicely marked Collier pullets, \$5 each. JAMES LOWE, Encanto, Cal.

FARMS WANTED.

WANTED—To hear from owner of good farm for sale. Send description and cash price. D. F. BUSH, Minneapolis, Minn.

WANTED—To hear from owner of good poultry farm for sale. State lowest cash price. Western Sales Agency, Minneapolis, Minn.

FARM IMPLEMENTS AND SUPPLIES

SECOND-HAND PIPE.

Very best quality of selected Second-hand Water Pipe and Standard Screw Casing. For quality and low price you make no mistake when buying water pipe of the Weissbaum kind. Largest pipe works in the West.

WEISSBAUM PIPE WORKS, 162 ELEVENTH ST., SAN FRANCISCO.

"Smith's Pay the Freight"—To reduce the high cost of living, send for our Wholesale to Consumer Catalogue. Smith's Cash Store, 121 Clay St., San Francisco.

Don't have fat, lazy sows; make them exercise. Keep their appetites well "whetted."

Don't let pigs drink from mud holes and stagnant pools. Provide pure, clean drinking water for them at all times.

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By H. C. DAWSON.

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The Live Stock and Dairy Journal
SACRAMENTO, CAL.

POULTRY

THE CHINESE EGG QUESTION DISCUSSED.

The Poultry Breeders' Association of Southern California at its meeting on June 25th in the Chamber of Commerce thoroughly discussed the outlook and dangers to the egg business by the importations of the Chinese eggs.

The principal speaker for the evening was J. Will Blackman, president of the National Poultry Company, of 607 East Third street, Los Angeles, and because of the position he occupies as president of a firm who are jobbers and packers in eggs, poultry, etc., and the consequent thorough knowledge he has of this business, his words should carry full weight.

He stated that from an original small importation of Chinese eggs into the Los Angeles market, this business had increased rapidly, till now it was estimated at several carloads weekly, and so had become an important factor in determining the price of eggs here.

It was reported that forty-seven carloads of these foreign eggs recently arrived in Vancouver, most of which were shipped to Chicago and other Eastern cities, but the bulk of the severe competition, Mr. Blackman said, he believed, would be felt by the Pacific coast states.

The recent organization by a Chinese exporter of a system of nearly eighty branch houses, with a force of about 3,000 men, is responsible for the present situation, and these eggs are bought mainly by bakers and a class of consumers who do not mind poor quality if the price is low. Because Chinese eggs can be bought by commission men at a reduction of 5 or 6 cents below "case-count," some of these firms have been mixing these eggs with the class of local eggs known as "hot weather" eggs before offering them for sale.

Mr. Blackman has absolutely refused to handle any Chinese eggs, though it would be materially to his present financial benefit to do so, and in addition he is ready to aid in any effort to remedy conditions as they exist by reason of these importations.

The main point of attack by Mr. Blackman was that Chinese eggs should be sold for what they really are, and should be so marked, so that if people want such product they would know what they were buying. In fact, he advocated that the words, "From China," should be stamped on every egg imported from that country, for the law as to cold storage products is very strict. The commission man or dealer has to place prominently in his store a placard stating he sells cold storage eggs, and cases have to be marked so, but eggs from China may be six months or more in cold storage, shipped to this country, and sold as a "ranch egg." The United States is thus discriminating against her own product, and the utter injustice is apparent.

He recommended that a campaign be commenced without delay to call attention of our congressmen, particularly those from this State, to the danger of this severe competition and the injustice of allowing these eggs to be sold with no safeguard to the buying public as to whether they were "ranch eggs" or otherwise, while our own producers are bedged by compulsory laws in what is sold.

He also recommended an effort be made to secure the adoption by the boards of supervisors of the different counties, the city councils of the most important cities, and the boards of trade and chambers of Commerce,

and other important commercial organizations, of resolutions setting forth the danger and injustice of the present situation.

If these eggs were so stamped on the shell it would acquaint all buyers of that fact, and if they found such produce meant a stale and inferior quality the present demand would drop very materially, and the competition with consequent injurious reputation affecting American eggs would soon be stopped.

Mr. Blackman has talked with many large customers of his firm, and such a law would meet with hearty approval, for they are strongly in favor of it to give a means of protection against selling Chinese eggs under false pretenses, which is now being done.

At the conclusion of this address Joseph E. Davis, manager of the Poultrymen's Co-operative Association, spoke in favor of what Mr. Blackman had said, and believed the effect of the importations of Chinese eggs would be very marked on the home product, especially next spring because of the immense quantities now being shipped into this country from China. In past years the commission men have been in the habit of buying up eggs for storage when prices got low by reason of heavy production, and this buying has helped to sustain prices just at the time when they got to a low point, but as Chinese eggs can be bought still lower it will mean far less eggs to be stored next spring.

Mr. Davis advocated a campaign to educate the consumers of eggs by means of printed literature, and also believed it would be a good thing for the producers in this country to have their eggs stamped with the words, "Not from China," to bring the distinction nearer home to the buyers.

Mr. M. A. Schofield, of Gardena, was the next speaker, who stated that the lowering of the tariff on eggs by the United States is the cause of the influx of Chinese eggs, which previously were shipped to England and other European countries.

Mr. Goodacre thought that the different poultry associations throughout the State should act in a co-operative campaign against these conditions, and suggested that the Poultry Breeders' Association of Southern California get in touch with others of a like nature.

Mr. Cook charged that the spirit of the Chinese exclusion act was violated, as he could not see what advantage the United States gained by excluding Chinese laborers, etc., if Chinese products are admitted on better terms than the production of the people here. He also believed the exposure of the Chinese eggs to disease germs by reason of very unsanitary conditions prevailing in China was a bad feature of this question.

Before adjournment of this meeting a motion was carried authorizing the president of the Poultry Breeders' Association of Southern California, Mr. Harrison, to appoint a committee of three to carry on the proposed campaign against Chinese eggs, for which purpose Messrs. Davis, Schofield and Blackman were appointed. (The foregoing report was sent by Henry A. Mumford, secretary-treasurer Poultry Breeders' Association, to J. E. Holt for publication.)

(Notice—If any subscribers of this magazine have addresses of poultry or egg associations, or clubs, I will be pleased to receive the same, with a view to co-operation with other associations or clubs on this important

subject of Chinese egg importations, and all such letters should be addressed to J. E. Holt, care the Live Stock and Dairy Journal.)

CATARRH AND ROUP.

Poultry Editor The Live Stock and Dairy Journal: Please tell me in next issue the difference in symptoms between simple catarrh and roup, as I have often seen the terms in print, but have not seen an actual case that I know of. Oblige, yours truly, M. A. M., Salem, Ore.

Simple catarrh is an advanced cold, indicated by a plain mucus running from the nostrils; that cold may assume a more serious aspect by getting into contagious catarrh or roup. There is no odor to notice, generally, with simple catarrh, but as the disease progresses to roup the foul odor is very marked, so that no one can mistake it who has had one experience. With simple catarrh there is no pus formed, that symptom comes with contagious catarrh and roup, and the two latter show a catarrhal mucus in the nasal cavities filled with pus; this pus extends into what may be termed abscesses around the eyes or near them, according to whether it is roup or contagious catarrh, difficult to cure if allowed to get to that stage, yet curable in the majority of cases, not always advisable in severe instances.

Simple catarrh or simple colds are contagious because of the germs being scattered in the water for drinking, because of the slimy mucus in the nostrils, and from mites or lice disseminating the diseases, roup, contagious catarrh, diphtheria and chicken pox are highly contagious, so all sick should be at once separated from healthy, and medicated. To clearly diagnose, pick up each bird, press with the thumb nail the slit of nostril just over the top, if mucus comes out that bird is sick with some catarrhal affection, as healthy birds have clear, dry nostrils.

EGG MASH.

Poultry Editor The Live Stock and Dairy Journal: Would you please send me the formula for mash for egg production, and oblige, J. W. J., Stanislaus County.

If the hens are from a good laying strain, and not past good egg production by reason of age, the following is a good egg mash:

Bran 50 parts, feed meal or corn meal 20 parts, shorts 25, ground oats 30 parts (or rolled feed oats will do), fish meal 10 parts, bone meal 5 parts, granulated milk 5 parts, fine charcoal 3 parts. All well mixed dry and served as a dry mash if feeding that way, but if feeding a crumbly mash mix dry first then add water to make crumbly when well mixed, never sloppy or sticky.

If fed dry, all they want in boppers,

if crumbly as much as they will eat in troughs for fifteen or twenty minutes.

Green stuff at noon all they want, grit, shell and clean water. A mixture of grains in the afternoon in litter, a quart to every ten hens.

DEAD IN SHELL.

Poultry Editor The Live Stock and Dairy Journal: In a batch of 100 eggs by incubator I found 20 per cent of the chicks dead in the shell. Will you please tell me what is the cause of that loss. L. D. E., Marin County, Cal.

There are a number of causes in getting chicks dead in shell. Poor vitality in hens or in rooster, lateness of season, hens getting old, too many hens with rooster, lack of right moisture in incubator, or not feeding for vitality and fertility.

Not having details of immediate management, I would say on general principles the cause may likely be lateness in season in this case, and the hens near the molt, or preparing for it.

If you state what age, number of hens to rooster, what way of feeding with proportions, with details of running incubator, I can help you more decidedly.

THE CALIFORNIA STATE FAIR POULTRY SHOW.

The exhibits of poultry at the California State Fair this year filled the poultry building comfortably, and were of quite good quality. The larger breeders were not represented to any extent, and the prize money was well divided.

Buff, Brown, White Leghorns



Cocks, Hens, Cockerels and Pullets for sale. Day old chicks of above varieties in season.

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R. 4, Box 281

J. E. HOLT

Los Angeles, Cal.

Farm Woman's Page

CONDUCTED BY AUNT MARCEL.

This department is conducted for the purpose of dealing in a helpful way with the many problems which are encountered by the woman on the farm. Household and home questions from our women readers are encouraged. Address all correspondence for this department to Aunt Marcel, The Live Stock and Dairy Journal, Sacramento, California.

EFFICIENCY IN THE HOME.

Efficiency! Everywhere we turn we hear the word applied to every walk of life until finally it is making its way into the sanctity of the home and upsetting the traditions and customs of our grandmothers. Efficiency—the ability to produce the greatest amount of useful work in proportion to the amount of energy expended.

In other words, the words of our grandmothers: "Make your head save your heels."

So many houseworkers can secure twice the amount of energy and time in doing their work that they would consume in doing it if they concentrated their minds upon it and planned it. All the schools of domestic science teach the art, but we older women have to make a few rules and apply ourselves to the task of learning it without help. Some—a fortunate few—seem to be born with a talent for efficiency and of these women we hear it said, "She does her work so easily—it does not seem to be any effort at all." But the great majority have to learn it and it is indeed a hard road for those who have not done so in their youth. However, it is well worth the effort, since once learned we will have time for pleasure and recreation that we cannot have otherwise.

The routine of the housework is so alike day by day that it is very easy to fall into a habit of doing it with our minds "wool gathering." I think nine out of ten women do it. This is the first step backward and is a habit that is not only disastrous, but very hard to break. When we are doing one thing and thinking of another we let the cake burn, the kettle boil dry, the fire die down, the baby fall down the cellar steps and a dozen and one other things that make us extra work. One of the first steps toward efficiency in the home is to force ourselves to think only of the thing we are doing. Sometimes we must think of several things at one time and this is, of course, more difficult and requires every bit of concentration we can command. Another rule is to plan your work for the week as far as you know what it will be. Divide your day so that the work will fall evenly, allotting a reasonable amount to each day. Better let the work go than to completely exhaust your energy on any one day. You know what you are capable of doing. Do not overdraw on your supply of energy, for the woman who continually does so is using all her interest and a little of her capital every day until finally there is neither interest or capital left. After you have apportioned a reasonable amount of work for a day make every effort to complete it. Set aside certain hours and do not stop to read the paper a few minutes or to talk while you should be at work, nor go on working when your time has come for rest. Plan your meals for each day, and do as much of the cooking in the morning as you can. Remember, always that an hour's work in the early day is worth two later and that an hour's sleep in the early night means more than several in the morning. Have a time and a place for everything and do not take two steps where only one will do. If you have half a dozen things to take upstairs take them all at once and complete the upstairs work while you are there.

In short, efficiency is just simply doing your work in the shortest time possible and with the least effort. A trained mind is always better than an untrained one and we can all harness our own minds and drive them

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Dealers everywhere.

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(CALIFORNIA)
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where and how we will just as we harness wild colts and make them do our bidding. Like the colt untamed in the pasture and wasting his strength and usefulness an uncontrolled mind is a detriment to its possessor, but like the colts, also, we must treat it fairly, giving it the needed rest and recreation, and not continually overtaxing its strength.

THE EFFECT OF A CLEAN TABLECLOTH.

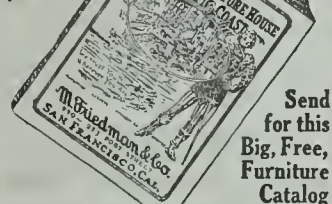
It is impossible for the country woman situated as she usually is to set as dainty and attractive a table as the woman, who, living in the city, does not have the same number of duties nor the same amount of daily tax upon her strength and energy.

Nevertheless, the little refinements of life have a very material effect

upon every one and for that reason we should strive to have them to a great extent as may be consistent with our surroundings. The country woman can rarely hope for the dainty china and silver equipment nor could she make practical use of them if she had them, but there is one small thing she can always have and that is a clean tablecloth. It had better be a clean piece of white oil cloth than a soiled and spotted linen one. No meal, however, well prepared, is appetizing on an unclean cloth and how very, very often we see it. Leaving the cloth on the table between times is a slovenly habit and one that insures a dingy looking cloth. It is such a small effort to remove and fold it after each meal that there is really no excuse for not doing so.

Besides you can teach your family to respect the tablecloth with a little persistent effort. The baby old

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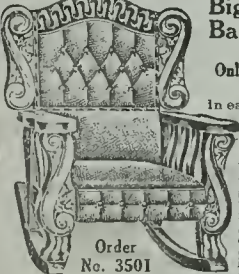
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on our easy plan. No previous experience necessary. Practically every farm home and small town home will buy after trying. One farmer who had never sold anything in his life before, writes: "I sold 51 lamps the first seven days." Another says: "I disposed of 34 lamps out of 31 calls." Thousands of others who are coming money endorse the Aladdin just as strongly. No money required. We furnish capital to reliable men to get started. Ask for our distributor's plan, and learn how to make big money in unoccupied territory.

enough to sit at the table and eat with the family is old enough to begin to learn neatness, and it is well to devise some sort of mild punishment for the habitual offender.

HOW THE FARMERS' DAUGHTER MAY EARN PIN MONEY.

A lady in Richmond, Va., has made a national reputation putting up and selling "pin-money pickles." She began a few years ago in a very modest way, but now her products are so popular that they can be found nearly everywhere in the United States. Another woman, in Washington, D. C., has built up a business making chowchow, for which she gets \$3 a gallon.

These are only samples of what hundreds of young women have done to earn pin money by putting up canned goods at home. People are continually demanding a better quality of canned goods and are willing to pay a better price for them. The farmer's daughter who desires to earn pin money may avail herself of this demand and with care and perseverance learn to put up canned goods that she may sell at a profit. Those who are interested in such a project may obtain detailed instructions on canning in Farmers' Bulletin 521 of the United States Department of Agriculture, which will be sent free of charge to the applicant.

The bulletin, while encouraging the young woman in her efforts to make a business proposition of putting up fruits and vegetables, cautions against over-enthusiasm. It advises that the beginner experiment with a few cans before going too heavily into the project. If the first cans keep well, she may be encouraged to proceed. If she meets with a few failures, perhaps she has overlooked some important detail outlined in the department's bulletin. It is only through failures that one gets good experience, and with a little practice and care in following the directions any farmer's daughter should be able to put up a satisfactory can of fruit or vegetables.

When a young woman has succeeded in putting up a product satisfactory for home use, she may well look around for a market outside the home. The girl who starts out with confidence in herself will be more likely to find a good market than one who is diffident.

Specialize in What You Do Best.
The girl with experience in canning

knows the products with which she has the most success, and should endeavor to sell only those in which she excels. It is always best to specialize and work up a reputation for some particular kind of goods, as did the women already mentioned. One girl may make a feature of catchup, another may find her best product is pickles, while another may put up a specially attractive can of peppers, cauliflower, peaches, apples or tomatoes.

People of means are most likely to want "home-canned" products, and these are the ones to see. Many housewives living in the cities who leave home for the country during the summer months will gladly give the farmer's daughter an order to can enough tomatoes to last them all winter. It is best to take orders ahead as far as possible.

The young woman who starts out to sell her products will, of course, dress neatly and take samples of her products put up in attractive form. Glass jars will show products much better than tins, but if tins are found to be less expensive, they may be used for all except the show products.

The managers of the best hotels and restaurants in the neighborhood, the stewards of social clubs in the cities, the managers of railroad dining cars, and many retail grocers will be glad to use the products of the girl who does her canning at home. These products are likely to show individual care and to be prepared neatly of good materials, and on the shelves of a retail store are likely to attract attention from the best customers.

If a young woman knows by experience that her products are first-class, she need not hesitate to put a good price on them. Home-canned goods, canned by experienced people, are worth more than ordinary goods, and one need not compete with the other. "Fancy goods" are rarely found upon bargain counters. Even if the first samples of home canning are not such as may be readily sold, they may be used at home and from her experience the farmer's daughter may do better the following season. When she actually succeeds in getting something better than the ordinary she should be able to sell it. She may well ask her friends to recommend her to good trade. The young woman sincerely determined to make a success of canning as a business proposition with perseverance and care in following instructions should be sure of some measure of success.

YOUR DUTY AS A VOTER.

Whether or not you are an advocate of woman's suffrage now that it has become a law in our own State it is unquestionably the duty of every woman to vote and not only to vote, but to study the issues at stake as intelligently as she can so that she may be able to vote as nearly as possible for the best. Remember, that there are unscrupulous women who will vote for wrong laws and fanatical women who will vote for unwise ones. Undoubtedly the greatest argument against woman's suffrage is the fact that too many women are inclined to extreme views and they will vote for extreme and radical measures for which the country is often unprepared. This is a condition that will pass in time because the very use of the ballot will broaden the feminine mind. Conservatism has usually proven wisest in the administration of the affairs of any country. All good things come by growth not by radical and unprepared for changes. There are, of course, certain needed changes that are bound to come through the vote of the women, but that vote may do great harm by making too radical laws. There is a wise and an unwise way to do these things and

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every woman should study conditions seriously and remedies from every standpoint before casting her vote. The vote is a very serious responsibility, which should not be accepted lightly nor entirely neglected. Great power for good or harm to our children and ourselves lie behind it.

HOUSE CONVENIENCES.

Every woman has a right to a convenient house. There are some men who do not seem to realize this necessity and it sometimes takes quite a jolt to wake them up to the fact. It is, however, strictly and slangily speaking "up to the woman" and if she is wise she will do it in one way or another.

There is no one who admires the woman who, through shiftlessness, laziness, extravagance, or frivolity, neglects her home and family, but on the other hand the woman who will toil unceasingly to save her husband the expense of a few needed house conveniences is rarely appreciated. She can work herself into an early grave without thanks and nine times out of ten some other woman will enjoy her hard-saved money.

Therefore, I say to the farm woman do your duty by your husband, but don't be so enthusiastic about doing it that you let him forget what his is to you. Remember that husbands, like children, are often what you make them.

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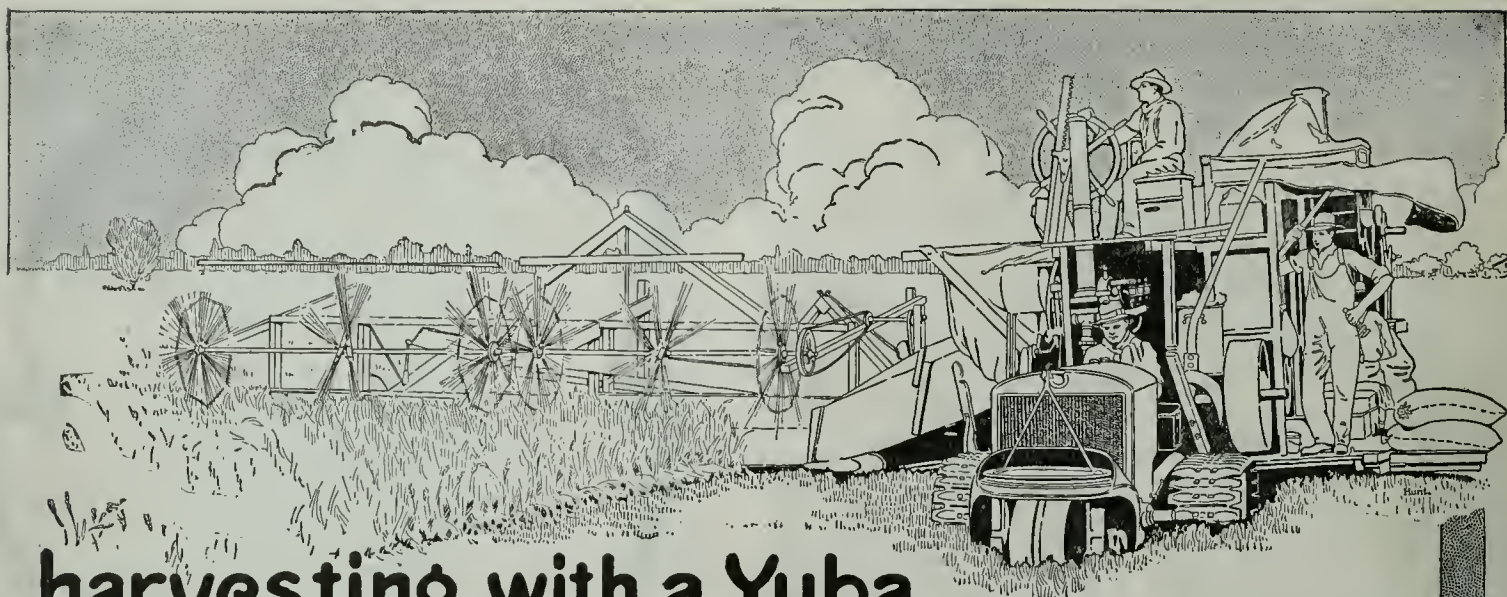
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Thirteenth Year

NOVEMBER 1914



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The JOURNAL goes to press on the 25th preceding date of publication, and reaches the mails on the 5th of each month.

THE NEXT STEP.

The pure bred sire movement is now well under way all up and down the Pacific Coast, and there are thousands of herds that are being built up on the solid foundation of good blood. In successful dairying or breeding or the growing of market animals proper feeding is second in importance only to proper breeding. Feeding problems are being worked out rapidly, and the use of concentrates and silage to supplement alfalfa and the other forage crops which are here grown in abundance has now become quite general practice and with immense development along those lines indicated for the immediate future. The next step in progressive farming with animals will be proper housing, which is very closely related to sanitation. The mildness of our climate has been the cause of the fearful lack of buildings on most of our farms. The old order is gradually changing, however. Corral milking has been almost entirely discontinued in many localities, where formerly it was universal practice, and stanchions and floors have been built. Other localities have progressed to the point of roofs over the floors and stanchions, and still others have real milking barns with floors, roofs, stanchions and side walls. Good buildings play an important part in the cleanliness of milk, better feeding of animals, conservation of fertilizing value of manure and the general health of the herd. Before long the red barn will be quite as much in evidence in California as it is in localities where it is largely a shield against the elements.

THE NEW SIRE.

A good many Journal readers are by this time proudly showing the neighbors the new pure bred sire bought as a result of a visit to one of the fairs, and unless times have changed quite suddenly the nicely engraved certificate of registration is getting more attention than the sire himself. That certificate is important and very necessary to the upbuilding of farm animal efficiency, but do not let its beauties of engraving and intricacies of red ink notations so far take up your attention that you forget to feed the bull or boar or horse or ram, whichever he may be. Neither shall you underfeed the females with whom he is mated lest the offspring come into the world with ill-nourished bodies to face an ill-fed life. If perchance you have a grade herd or flock remember that many breeders through centuries of effort and thought have participated in bringing the blood of your herd sire to its present state of perfection, but their centuries of labor will be lost to your herd if you do not properly feed his mates and their offspring. In other words your herd sire carries blood that has been developed to the end that it may more economically convert the grasses of the earth into more convenient and suitable form for human use, such as milk, meat and wool. That part has already been attended to and it is up to you to feed that blood so that it may have its full effect.

WE HAVE THE BLOOD.

It will be many years before America can import heavy European draft stallions again, but that does not signify that our horse breeding interests will suffer to any great extent. We have plenty of good pure blood of the various draft breeds in this country at the present time and it depends upon our own selves whether or not we shall breed our own breeding stallions. American breeders of dairy cattle have improved every European breed introduced into this country and the improvement has invariably been made through bulls bred in this country. The improvement of dairy cattle has come about largely through careful development of the females of the breed and a painstaking selection of the bulls to be kept as herd headers. While milk and draft power are quite separate things it seems as though the draft horse breeder might profit by the experience of the dairy cattle breeder. It is admitted that we have plenty of good pure bred draft stallions, but we are very weak on pure bred mares. This is particularly true of the Pacific coast states. There are a limited number of really good mares scattered throughout the coast states, but they are not found in large numbers in any locality. Breeders of pure bred draft horses on this coast have at times complained that they could not sell their American bred studs, and such has undoubtedly been the case. But there is little doubt that breeders in general are themselves responsible for this condition. There has been a very ordinary lot of mares used as brood mares and while the stallions mated with them have been of good average quality they have not been able to overcome the glaring deficiencies of the mares. There is a grand opportunity right now in scores of localities on the Pacific coast for the establishment of studs of draft horses. With good foundation stock and proper feeding methods in order to make size and substance it would not be many years before the American bred stallion would be esteemed fully as highly as the average run of imported horses.

QUALITY IN THE NORTHWEST.

There is a high quality of live stock being bred in the Pacific Northwest at the present time and plans are being made for even greater quality. The climatic and soil conditions of a very large part of Oregon, Washington and Idaho lend themselves admirably to animal husbandry, and conditions are rapidly becoming more favorable for intensive stock farming in Montana. The most rapid advance is being made in dairying with the hog industry following closely along. There are herds of Holsteins in the Northwest that would be at home in any country, and the same is true of Jerseys and Guernseys, while Washington is the home of the best all-around herd of Ayrshires in America. Live stock farming makes for prosperity, and the Pacific Northwest is rapidly becoming a section of stock farms.

DEATH CALLS T. B. GIBSON.

California has lost one of its best citizens and live stock breeders through the death of T. B. Gibson, proprietor of Roselawn Stock Farm, Woodland, California. Bright's disease claimed Mr. Gibson while he was in the prime of life at 53. He had for years been a movlug spirit in Yolo county, being active in nearly every public-spirited enterprise and his farm is one of the show places of the county. While his breeding activities included swine, sheep, horses and beef cattle, his principal efforts were directed toward the breeding of purebred Shorthorns and the name of Roselawn is known throughout the state wherever good Shorthorns are known.

OFFICIAL TESTING CREATES WEALTH.

There is nothing that increases the value of dairy cattle so quickly as official testing for milk and butter fat production. It is the creation of wealth of a very permanent kind, for the record of a great cow adds thousands of dollars to the value of her descendants, and in this increased value many men will share. Thus a breeder who tests his herd and does real constructive work in increasing production, may add more to the wealth of other men than he does to his own. The demand for breeding stock carrying the blood of advanced registry ancestry is simply a matter of public understanding of what official testing really means, and education along that line is spreading rapidly.

COMMUNITY BREEDING.

In this issue will be found a most interesting article on "Breeding Percherons in France," written by William McLaughlin, who is one of the leading American authorities on the Percheron breed. This article was written previous to the breaking out of the European war, and since that time the localities described in the article have been the scenes of some of the bloodiest battles of the war. The article is particularly interesting to American breeders at the present time, in view of the fact that we shall need to improve our methods of breeding pure-bred draft horses in this country to meet the demand for stallions. There is no reason why some county on the Pacific Coast could not become a second Lille. We have always advocated the use of pure-bred mares on the farm to do the farm work and raise a good, pure-bred colt each year. We realize that this would be more practical on the smaller farms, and it is here that the mares would have their best chance, for the farmer who has only one or two pairs of mares is quite apt to give them a bit better care than the one who owns larger herds. One of the most important features of the breeding and raising of pure-bred draft horses is in the feed and care of the colts. Note in Mr. McLaughlin's article that the stud colts in France are taken out of the hands of the farmers when they are quite young and are fed and raised by the stallion owners who are experienced feeders. It is probably while in the hands of the feeder that the future great stallion is really made.

AND THEY WILL BESTOW ROYAL BOUNTY.

In a recent issue of the Journal was an article entitled, "Kindness and Good Feed Play an Important Part in the Development of A. R. O. Cows," written by M. M. Holdridge, whose herd has become noted all over the coast because of its high excellence. The closing paragraphs of the article said: "If you wish to dairy, buy the best pure bred cows you can secure, and then treat them as dairy queens." That is the advice of a notably successful breeder and it is particularly timely in view of the fact that so many young men and women are buying pure bred dairy cows. It is rather astonishing to look over the history of some of the most successful breeders of dairy cattle in America today and note the small beginnings from which their large successes have sprung. In a very great many instances a man has built a large fortune upon one or two cows and their offspring. In this day of demand for the blood of high milk and butter fat producers the young man who can develop a single cow of unusual producing capacity and transmitting ability has gone a long way on the road to financial prosperity besides having rendered a high public service. The reward in both ways is well worth the thought of large minds and the foundation should be laid in the first purchase, by getting the best to be had.

SHEEP ON ALFALFA LANDS

From the experiences of a limited number of sheep owners that have come under our observation, it seems to be a fact that an acre of good alfalfa land will carry from nine to twelve head of sheep per year. Taking into consideration the present prices of alfalfa hay, and the prices of mutton and wool, the alfalfa land owner can very profitably stock his lands with sheep. Sheep are very easily handled as compared with other kinds of live stock, are not particularly subject to disease, multiply rapidly, and there is a good steady market for wool and mutton in sight. The raising of sheep looks particularly attractive for the alfalfa grower who wants to stock his place and is looking for a class of stock that will not require expensive buildings and equipment, and which will also make fairly quick returns on the investment.

WAR AND IMMIGRATION.

The European war has not yet reached a point where any man can make an intelligent guess as to its probable outcome, and only in a general way can its effect upon American commerce be estimated. Here on the Pacific Coast its effects will be felt in a very large measure, as it was from Europe that heavy immigration was to come by way of the Panama Canal. While the war will quite effectually stop immigration in the immediate future, there will undoubtedly be thousands of families that will be glad enough a little later on to leave their native war tax burdened country. Possibly travel through the canal to California will be heavy after all.

SHEEP

A Place for Sheep on the Farm

As the sheep breeding season is now opening the United States Department of Agriculture urges the desirability of maintaining a small flock of sheep upon the farm. With proper care and attention a flock of 25 or 30 ewes can be kept at very little expense, and they will prove of inestimable value in freeing the farm from weeds and adding something to the farm income. In addition to providing a considerable supply of delicious, wholesome food for the farm table there will be a surplus for sale and an additional item of revenue in the form of wool.

Many farmers make a practice of buying ewes in the fall, breeding them and selling the lambs the following summer. Such ewes can be carried through the winter on wheat and rye fields if not pastured too closely, or on clover hay with some roots and a little linseed meal. If the clover hay is not available corn fodder may be used as roughage, in which case it should always be supplemented with bran or linseed meal. Lambs should come early and should be taught to eat as soon as they are old enough. Give lambs access to corn by providing a creep through which they can go without allowing the ewes to follow.

Ewes can be purchased at the present time at prices ranging from \$3 for common, inferior sorts to \$7 for good fairly well-bred ewes. For farm purposes the black-faced ewes are more popular than the others, although good results can frequently be obtained from the white-faced ones. In buying ewes be sure that they stand well on their feet, have good straight backs and good mouths. Ewes that have broken teeth, or teeth that are badly worn down, should not be bought. As a rule a sheep has one pair of permanent incisor teeth when it is one year old; two pairs when it is two years old; and three pairs, or a full mouth, when it is three years old. A full-mouthed ewe, if the teeth are in good condition, can be used for breeding with good results, although she may be as

much as five years old. Never buy a ewe that has a broken mouth, that is, with teeth that have been broken off or lost.

None but a purebred ram should be used. It is not necessary to have a show animal, but a strong, vigorous buck is essential. Shropshire, Oxford, Southdown and Hampshire rams sire excellent mutton lambs and these breeds are recommended for the farm states. A suitable ram can be bought from \$8 to \$20.

The two principal drawbacks to the sheep industry in the farm states are dogs and stomach worms. The dog nuisance can be obviated to a great extent by placing dog-proof fences around the pastures. The United States forest service has had excellent results in protecting sheep from coyotes and wolves by building fences constructed in the following manner: A barbed wire is first stapled to the posts right on the surface of the ground. Three inches above this is placed a panel of close-woven wire, 36 inches high, and above this two strands of ordinary barbed wire. Care should be taken to see that there are no openings between the ground and the lowest barbed wire. An inclosure made in this manner, into which sheep may be turned at night, is inexpensive and dogs will not get through it. Most of the damage by dogs is done at night.

The presence of stomach worms is a very serious drawback. The young lambs become infested with them by eating grass to which the worms have attached themselves, the eggs being deposited by the mature sheep. It is, therefore, desirable to keep the lambs on land on which the mature sheep have not run, and if possible in cases of bad infestations to keep the lambs away from the mature sheep as much as possible.

In the farm states the farmers will find it to their best advantage to regard the wool from the sheep as a by-product and direct their principal attention to the production of lambs and mutton for the table.

FALL PLOWING.

Fall plowing possesses many advantages in the greater part of the agricultural area of Washington.

(1) Fall plowed land left rough will absorb the winter's precipitation much more completely than a firm surface. This advantage is very important except in some of the regions of heavy rainfall in Western Washington.

(2) The winter's rain and snow will settle the furrows, shutting out excessive air space, and restoring capillary connection with the soil beneath. This puts the soil in better shape for rapid and extensive root development and greatly lessens the danger of the furrows drying out if much manure, stubble or other refuse has been plowed under. This settling of the furrows, accomplished by nature, is more effective and costs less than the firming of spring plowing done with compacting tools.

(3) The weathering of the loosened furrows improves the physical condition of heavy soils and aids in the liberation of latent plant food. The immediate yielding power of a given piece of land is not determined by the amount of plant food actually stored in the soil, but by the amount of plant food that can be made available to the immediate crop. One of the leading purposes of tillage is to encourage the development of available plant food in the soil.

(4) In the hilly sections land plowed on contour lines in the fall and left rough is less apt to wash and gully than the same soil left with a firm surface. This is becoming an important consideration in the grain belt in most cases.

(5) Fall plowing economizes time and labor by utilizing teams and equipment that would otherwise be idle, and relieves the usual congestion of spring work. This usually gives time for better soil preparation in the spring. In most cases it is probably better not to fall plow land that is to be summer fallowed, but instead disc the surface. Discing in

the fall will give the benefits of fall plowing in a minor degree. Summer fallow land is usually apt to become too compact by the spring after seeding if it is plowed the fall before summer fallowing. It is also usually best not to fall plow a leachy soil in a wet climate.

In general, however, it is usually desirable to fall plow for spring crops in most parts of Washington except where the spring seeding is done on summer fallow. We would urge those who have not practiced fall plowing for spring crops to give the practice a small trial this fall. Land may be given a deeper plowing in fall than in spring with good results. GEO. SEVERANCE, Agriculturist, Experiment Station, Pullman, Wash.

Farming is successful only when the crops have been profitably marketed.

Good roads broaden our sympathy, lessen distance and increase our usefulness.

It's the man who really counts in farming. Fertile land is necessary, but a master mind must solve the problem of production and marketing.

NEW DATES FOR AMERICAN ROYAL.

Kansas City's Big Live Stock Show Will Be Held November 16 to 21.

This year's American Royal Live Stock show at Kansas City will be held November 16 to 21, a month later than usual. The change in dates was made in order to escape the congestion in the Kansas City stock yards which occurs annually in October, the season of heavy runs of grass cattle and sheep. Several of the sheep barns are used for stabling the show stock and a large section of the cattle pens are required for the carlot entries of fat and feeding cattle.

There will be just a week between the closing of the American Royal and the opening of the International at Chicago, and as many of the exhibitors at the former will show at the latter it will not be necessary for them to ship their stock back home and hold it a month and then reship to Chicago, as in the past. This year the leading herds of show cattle will be taken from Kansas City to Chicago on special trains made up entirely of show stock, and handled on passenger schedules. They will reach Chicago in ample time to be thoroughly rested and conditioned for the final contest of the season at the International.

SHEEP SHOW AT THE AMERICAN ROYAL.

In this year's American Royal Live Stock show to be held at Kansas City November 16 to 21 classes are provided for Cotswold, Hampshire, Shropshire, Southdown and Oxford sheep. Special prizes are offered on their respective breeds by the American Hampshire Sheep Association and the American Shropshire Registry Association. The Kansas City Stock Yards Company offers special prizes for the best ten lambs six and under twelve months old, and for the best ten wethers one year and under two years old, open competition. Entries in the sheep department must be made with T. J. Wornall, secretary, Live Stock Exchange, Kansas City, Mo.

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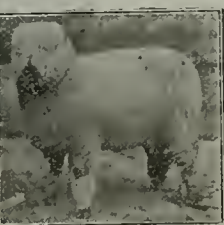
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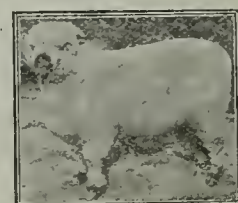
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B. F. Biggs, Fair Oaks, Cal.
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California National Bank, Sacramento, Cal.
Signed: C. L. HUGHES, Business Manager.

Sworn to and subscribed before me this 7th day of October, 1914.

GEO. W. STARLING,
Notary Public in and for the County of Sacramento, State of California.
My commission expires June 1, 1917.

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BEEF CATTLE

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Animals Intended for Immediate
Slaughter Can Now Be Shipped
Without Detention.

Hereafter cattle from quarantined districts in Mexico which are intended for immediate slaughter in the United States can be shipped direct to slaughtering centers in this country without the sixty-day detention on the border to which they have hitherto been subjected.

An amendment to the regulations governing the shipment of cattle from tick-infested regions, providing for this, has been signed by the secretaries of agriculture and the treasury, and goes into effect immediately. This amendment is known as amendment No. 1 to Bureau of Animal Industry Order No. 209.

Under the former regulations cattle shipped from tick-infested areas in Mexico were kept within the quarantined area of Texas for sixty days as a precautionary measure against the spread of the pest in the rest of the United States.

The new amendment applies only to such cattle as are destined for immediate slaughter. Under certain restrictions these can now be transported directly to slaughtering centers without the former delay.

NEW FEATURE AT THE AMERICAN ROYAL.

A new feature of the American Royal Live Stock show at Kansas City this year, and one that is expected to have an important bearing on the number of registered cattle on exhibit, is the Grand National Shorthorn Breeders' Futurity. For this event the Shorthorn Association has hung up the sum of \$2,500 in addition to the usual sum appropriated for the open classes. This money is offered in four sections, on junior and senior calves of each of the sexes. In each of the four sections twelve prizes will be awarded, ranging in amounts from \$100 for first to \$25 for twelfth. For the best bull calf in the futurity, silver plate valued at \$100 will be awarded, and the same for the best heifer calf. The two champion calves will compete for the grand championship prize, consisting of silver plate valued at \$150. The grand champion calf will thus win \$100 in money and \$250 worth of plate. A number of the futurity candidates will go in the Shorthorn sale to be held on Thursday, November 19. With this futurity feature as an added attraction to breeders it is expected that the Shorthorn entries this year will largely outnumber those of previous shows in Kansas City. This year's American Royal will be held the week of November 16-21.

NO PATENT ON THIS.

An Iowa farmer has devised a rat trap upon which he claims no patent, but which any one troubled with rats can use. He purchased a big galvanized iron bucket, or garbage pail, and placed it in the barn. He filled it two-thirds full of water and on top of the water a layer of chaffy oats an inch deep. The next morning he emptied out mixture of water, oats and drowned rats. He rebaited his trap and the next morning he figured results and found that he aimlessly, but with malice aforethought, had gotten rid of 89 rats. He declares it will rid a barn in a short time.

HILLCREST STOCK IN LARGE DEMAND.

Thornton S. Glide, proprietor of Hillcrest Stock Farm, Davis, Cal., reports that he is entirely sold out of rams and has only a limited number of Shorthorn bulls left. Mr. Glide states that these bulls are the best lot he has ever raised.

The silo has paved the way to successful animal husbandry in the most prosperous states in the country. It is rapidly becoming one of the greatest factors in stock farming on the Pacific coast.

STRICTLY A BREEDERS' SHOW.

American Royal is Managed by the National Record Associations.

Among live stock shows the American Royal, held annually at Kansas City, Mo., continues to be unique in that it is distinctively a show of, for and by breeders of registered live stock. Other live stock shows are held under state patronage, or by private corporations which assume the financial responsibility for them, and receive the profits accruing from them. The Kansas City show was founded by the National Breeders' Association and has always been and continues to be managed directly by them through directors selected by these associations.

So far from being a money-making enterprise the American Royal has been, since its inception, a heavy annual drain upon the national registry associations of the four leading beef cattle breeds—Hereford, Shorthorn, Aberdeen Angus and Galloway. Every dollar paid out in premiums on the four beef breeds is paid out of the treasuries of the respective breed associations, the four associations contributing annually approximately \$15,000 for this purpose. No entry fee is charged in any department. The gate receipts and approximately \$10,000 contributed annually by the business interests of Kansas City, are applied to the payment of operating expenses, providing special premiums and contributing toward the premiums offered on horses, mules, sheep and swine. Should a deficit occur it would have to be made good by the several associations participating in the management of the show. Fortunately the deficits in the history of the show have been few. Several years there have been surpluses which have been promptly applied to making the shows bigger and better the following years.

The American Royal was the outgrowth of the National Hereford show held at Kansas City in 1899, and at which only Hereford cattle were exhibited. It includes Shorthorn, Hereford, Angus and Galloway cattle; carlots of fat and feeding cattle, four breeds of draft horses, mules, four breeds of swine and five of sheep and has an additional feature, a live stock judging contest participated in by farm boys and students in agricultural colleges. In connection with the show sales of registered cattle are held each year under the auspices of the several record associations. In these sales the number of animals that one breeder may contribute is limited, the object being not so much to sell a large number of cattle, but to sell representative animals that will be advertisements for their respective breeds. The American Royal will be held this year during the week of November 16 to 21, and sales will be held as follows: Galloways, Wednesday, November 18; Shorthorns, Thursday, November 19, and Herefords, Friday, November 20. It is probable that no Angus will be sold this year.

The art of canning fruits has made it possible for humans to enjoy the freshness of their favorite fruits the year around. What the can does for fruits the silo does for corn and other succulent crops. There is no reason why the farm animal can not have succulent feed the year round, unless its owner is not yet in the class of progressive silo owners.

Through the use of well-bred, registered beef bulls it has taken only three generations to raise the market weight of steers almost 50% on a Sacramento Valley ranch. With beef at present prices can you afford to breed to scrub bulls again this year?

Keep to one breed in selecting sires to build up a grade dairy herd. That is the only way to secure uniformity and a uniform herd has an added value over the one of mixed appearance.

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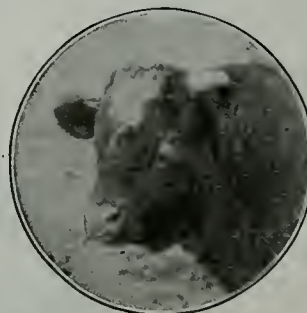
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THE HORSE

BREEDING PERCHERONS IN FRANCE

Written for the Live Stock and Dairy Journal by William McLaughlin.

A little section of France, about one-twentieth the size of the State of California, has become the most famous agricultural section of the world through the breed of horses which is produced there. The district in which Percheron horses are bred and raised in France is only about the same size as six of our counties in California. This little district of La Perche begins about seventy miles southeast of Paris and is located between the valleys of the Seine and the Loire. A small river called the Huisne traverses the district from end to end. It is one of the most curious things in live stock breeding that so small a section should become so famous.

The Percheron district has no large cities within its borders. It is beyond doubt the richest and most flourishing agricultural section in the world today.

Percheron horses have improved the breeds of draft horses in every civilized country in the world. The Percheron horse seems to make a better cross with foreign breeds of horses than does any other known draft breed. It is undoubtedly due to this fact that the Percheron horse is so widely distributed.

I might trace its origin back, as do the historians of the Percheron breed in France, to the time of the Crusades. I might tell you that these same historians lay a great deal of stress upon the Oriental blood that was introduced at that time, and later, into the Percheron breed; but, the things in which we are interested are not so much what has been done in the past as how things are at the present time.

The breeders in the Percheron district give a great deal of credit to the soil and the climate of their province. They say that a Percheron horse in its purity, with its strength, its force, its vigor, its harmonious outline, cannot be bred and developed in any other section so well as it can be within the limits of La Perche. Whether or not their contention is true, it is a fact that we do not find in France, in any of the other horse breeding sections, draft horses of equal merit to those we find in the Percheron district, notwithstanding the fact that the Percheron horse has been persistently used for many years in improving the other draft breeds of that country.

The Percheron country is divided

into what they call small farms and big farms. The small farmer has from one to four mares and is the actual breeder. The small farmer sells his male colts almost at the time they are born and delivers them at the time they are weaned to the big farmer who feeds them and grows them until they are two years old. He keeps the filly foals in order to replace his older brood mares when they are sold. About two-thirds of the farmers in the Percheron district consist of these small farmers. They practice economy in its most stringent form. Everything they have must produce something. The mares must all work. They must not only produce a colt every year, or nearly so, but they must do the work on the farm as well. The mares are never kept in idleness; as soon as a mare misses having a colt the second year, she is sold and her place is taken by one of the younger fillies. While the mares are worked hard, yet the farmer always feeds them well, so that they have the strength and the vigor to produce a good, big, strong, healthy colt and give plenty of milk on which to raise it until weaning time.

The big farmers in the Percheron district are the owners of the stallions. Every spring they buy of all the small farmers every male colt sired by their horses that they consider sufficiently good to develop into a stallion. These big farmers, almost without exception, live in the valley of the Huisne. Their land is nearly all in permanent pasture, and it is here that the Percheron stallion grows and develops at liberty until he is rising three years old. These colts, in a climate almost the same as ours, are left at liberty at all times, winter and summer. I think the health and vigor of the Percheron horse is due to a great extent to his never being kept, when he is young, in a close, badly ventilated stable. While these colts are always kept at liberty in the pastures, yet they are always fed grain so that they are at no time stunted in their growth.

The development of the Percheron horse, undoubtedly, is due to a great extent to the soil and climate, yet the breeders, the men who choose the stallions, who select the mares, and who raise them until maturity, have a great deal to do with it. These men not only have an intense love for their province, and are proud of its most important industry, but they are lovers of the animals they breed. They look after them carefully; they treat them well. They do their utmost to see that each animal has the proper care, the proper attention, the proper feed, the proper nourishment, in order to bring it to its most perfect development. The love of their breed of horses is bred in them. The son follows in the footsteps of his father, and attempts to improve upon what his father has already accomplished. There is a section where the young men do not leave their birthplace and go to the cities, but where they stay in the locality in which they were born because they love it and appreciate the opportunity they have in producing the best breed of draft horses in the world. A fact which possibly influences to a great extent the young men to stay in the country is because, at the bottom, the French farmer is economical, and he loves very much the dollars which flow into his pockets from the other countries

of the world for the horses which they breed and raise.

The French government has for many years taken a great interest in the breeding of Percheron horses. Through its system of shows, through the pensions and approval given to the best stallions, it has had a great influence upon the improvement of the Percheron breed.

Only about 5000 colts, considered sufficiently good for registration, are bred each year in the Percheron district. In spite of the continuous drain upon the breeding stock of the country, the Percheron horse today is better than he ever was. His size has been increased while the qualities which have made him famous throughout the world have not diminished.

A CORRECTION.

In the publication of awards in the Clydesdale classes at California State Fair in the October Journal the first prize mare with foal at feet should have been Jean Morrison, owned by O. H. Brandt, Shellville, Cal.

FARMERS SHOULD RAISE WELL-BRED HORSES FOR INCREASED EUROPEAN DEMAND

Work Mares Should Be Bred to Good Stallions, Mares Kept for Breeding Purposes Only Not Generally Profitable. Countries at War Possess Nearly Forty Million Horses.

During the next decade there will probably be an increased demand for American horses in the countries now engaged in the European war. The demand may even continue much longer, according to investigators of the U. S. Department of Agriculture, as not only will horses be needed for armies, but when peace is restored, more will be needed for agriculture. Already European agents are said to be endeavoring to purchase horses in this country and Canada, and there is an increased interest in many sections in horse breeding.

To meet this increased European demand American farmers may well endeavor to raise well-bred horses, although the Department of Agriculture does not advise them to purchase a surplus of horses merely for breeding purposes. It merely advises that ordinary farm work should be done whenever possible by good horses which should be bred to good stallions. It also desires to emphasize the fact that only horses of high quality may be raised today. Inferior horses are a drag on the market, and their production is to be discouraged as much as the production of good horses should be encouraged.

The United States has previously been drawn on to supply European countries at war. In the Boer war over 100,000 horses were bought here by the British government. It may be doubted whether a foreign government could now obtain a similar supply in this country, except at excessive cost. However, if farmers take pains to utilize their

good mares during this winter to breed them to good stallions, and in the course of several years (time enough for the foals to develop), America will be better able to meet the European demand.

It is natural that European countries should look to the United States for horses, as next to Russia it has more of these animals than any other country in the world. The United States and Russia possess 58 per cent of the supply. Strange to say, however, there were no horses originally on our continent and the present supply comes from stock brought over from Europe.

IMPORTED GERMAN COACH STALLION FOR SALE

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JACKS

We offer some first-class, registered Jacks, ranging in age from 1 year up, including first prize 2-year-old at California State Fair. Prices, \$600

up. PHILLIPS & KINGSBURY, 1112 T St., Sacramento, Cal.

Registered Jacks



Twelve head from 2 to 6 years old. Native Sons, hardy as Billy Goats and about as active.

Extra heavy bone and right every way. Fully tested as breeders and sold under an absolute guarantee.

Will trade for Young Mules, Horses, or Land. Come and see the stock.

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THE BARSTOW HORSE BREEDERS' ASSOCIATION OFFERS FOR SALE THEIR

Imported English Shire Stallion CRACKAJACK 28240

Foaled 1907. This Stallion stood four seasons in our community, and we have several hundred of his colts to show. He is an unusually fine animal, weighs 2000 pounds, is just in the prime of his career, a sure breeder, healthy and strong. An animal any community will be proud to own.

The sole reason for our selling this splendid horse is that we want to change sires.

We will sell this horse on very easy and liberal terms and back it with our full guarantee

For Price, Terms and Further Information Address

Barstow Breeders' Association

WALTER DONNERS,

R. 7, Box 132, Fresno, Cal.

Canada's supply is small compared to our own.

War as a Consumer of Horses.

The German army requires for a complete mobilization 770,000 horses and the French army is said to require 250,000, which figures, however, probably includes only those for the cavalry. It is conservatively estimated on good authority that 1,000,000 horses are now engaged in the European war. As the great majority of these horses are not included in the permanent military organization but are used for farm work and are requisitioned by governments only when needed for military purposes, the countries of continental Europe will certainly face an acute shortage of farm horses before the next planting season which will seriously affect the price of horses the world over, as soon as peace is declared.

According to the best information horses in the countries of Europe now at war number as follows:

Great Britain	2,231,000
France	3,222,000
Belgium	263,000
Germany	4,523,000
Austria-Hungary	4,374,000
Russia	24,662,000
Total	39,265,000

In addition England has a supply of about six millions to draw on in her various dependencies. Russia has about ten millions in Asia, and France probably 500,000 to one million in her colonies.

The rapacious consumption of horses in war is illustrated by figures from our own civil conflict. During his Shenandoah Valley campaign, Sheridan was supplied with fresh horses at the rate of 150 per day. In his report for the year 1865, the Quartermaster General of the U. S. army stated: "The service of a cavalry horse under an enterprising commander has averaged only four months." During 1864 there were 500 horses consumed per day in the Northern army, without considering those captured and not reported. During eight months of that year, the cavalry of the Army of the Potomac was mounted twice, nearly 40,000 horses in all being required.

Our Own Army a Desirable Market.

Our own army furnishes a desirable market for well-bred horses, there being under the remount system, at least 5,000 horses required annually to supply both the army and the National Guard. There are now about 20,000 horses in our regular army on a peace basis. In war, many more would be required before the first engagement. There is, therefore, a steady market for good horses independent of the European demand. Even the invasion of motor power which has reduced the number of horses on our streets has not influenced this demand. In fact, the price of horses has advanced along with other commodities during recent years.

The Bureau of Animal Industry of the U. S. Department of Agriculture, Washington, D. C., stands ready to aid any farmer desiring to breed high-class horses. As the day of the large horse ranch is practically gone, any increased demand will have to be met by the farmer. There are certain localities more suited to horse breeding than others and places where certain breeds do better. Such details may be obtained for the asking. Even in the South, where mules are bred in preference to horses, an increased production of first-class animals should find a ready market abroad, although the mule is not used on the continent to the extent that it is used here.

BOOKS RECEIVED.

Handbook for Farmers and Dairymen.
By Prof. F. W. Woll.

This is a handy reference work covering a great variety of subjects of every day interest to farmers and dairymen, and the new edition has been entirely revised and brought up to date, with the addition of several chapters. The volume is strongly and attractively bound in cloth. Price, \$1.60 and carriage 16c. Published by John Wiley & Sons, New York.

Breed that good mare this year to the best registered draft stallion available. If you have to take her a good many miles and spend a few days in doing it rather than breed to an inferior stallion you will be amply repaid by a better colt.

H. B. THORNBERRY SELECTS NOTABLE STOCK FOR CALIFORNIA.

The high-class importation of registered jacks and jennets which H. B. Thornberry has made to California during the past four years have made history in the breeding of long-eared stock in this state, and he is keeping up the high standard this year according to reports from Kentucky. Besides a high-class lot of jacks and jennets comprising about four car loads, Mr. Thornberry will bring back with him the sensational saddle gelding, Jack Barrymore, as previously announced in the Journal. In commenting upon the stock which Mr. Thornberry has bought in Kentucky the Kentucky Advocate, published at Danville, Ky., has the following to say:

"Kentucky Inca, sired by Woodson's Inca, dam Starlight Jenny, was raised by Mr. J. E. Wright of the Kentucky Jack Farm, and recently sold to Mr. H. B. Thornberry of Los Angeles, Cal., for \$3,600, probably the biggest price ever paid for a Kentucky jack. Kentucky Inca will be shown at the Panama-Pacific Exposition in San Francisco next year. While in Kentucky, Mr. Thornberry bought 75 head of jennets of the very best type. They were jennets raised by the best breeders in Kentucky and were secured at fancy prices, otherwise Mr. Thornberry would never have been able to get the fine individuals that he succeeded in taking back with him. He also bought while in Kentucky the great champion gelding, Jack Barrymore, of which a well known and prob-

ably the best posted Kentucky horseman has written:

"Jack Barrymore has been sold to H. B. Thornberry of Los Angeles, Cal., for the record-breaking price of \$5,000 for a five-gaited saddle gelding.

"This is unquestionably the greatest five-gaited gelding Kentucky has ever produced. When he was first uncovered the most critical judges in Kentucky saw at first sight he was surely a diamond in the rough and since receiving his education in the school of Shropshire he has proven himself to be the style of the five-gaited class. This title he justly deserves. Why? Because he began at the Mt. Sterling fair, the acknowledged hub of the saddle horse, winning the championship there in the five-gaited class over a field of Kentucky's best saddle stallions, mares and geldings. Then at the Blue Grass fair he won the championship, thence to Shelbyville with the same result, never dodging a show or losing a championship, and he is acknowledged to be in a class by himself. I mean no reflection on the other exhibits, for they are a great lot of high-class show horses. Now, if you don't think so, just eliminate Jack Barrymore and come, all of you, from the northeast and southwest and see the company he has been in and the place you will be able to get in this high-honored company. It is the prediction of one who knows Jack well, that when he is seen at his new home in the golden state he will create about as much of a sensation as the biggest exhibit at the Panama exhibition in 1915. I congratulate you, Mr. Thornberry, on your

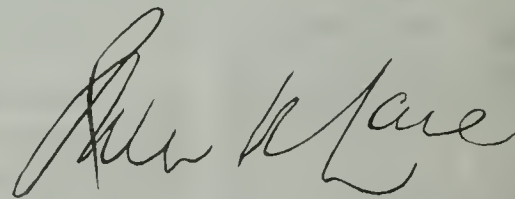
good judgment, and when the most eventful stake yet known to the saddle horse world is called somebody will remember your trip to Kentucky and bow in accord to the decision and give a big salute to the acknowledged king of saddle horses, and when the echo is sounded it will be heralded far and near he was bred in old Kentucky and his name is Jack Barrymore, made by W. J. Shropshire, Winchester, Ky."

HAVE YOU HORSES TO SELL?

"The California Draft Horse Breeders' Association is taking steps to determine whether or not it would be feasible or advisable to attempt to hold a public sale of breeding draft horses. The idea is, if possible, to establish a custom of holding an annual sale so that breeders may count definitely on this event as a suitable time for disposing of their surplus breeding stock. If the sale can be held this year it will probably be carried on at the University Farm at Davis sometime during the latter part of January or the first part of February. The entire management of the sale would be in the hands of the association. Only sound, registered horses would be accepted for sale, but it is not necessary that you be a member of the association in order to send consignments. The board of directors are now busy attempting to find out who wish to make consignments to such a sale and they will be glad to hear from any one that is interested."

From FRANKLIN K. LANE Secretary of the Interior

"I trust the State of California will elect James D. Phelan and thus realize its opportunity to secure a United States Senator who can, with force and dignity, uphold the interests of California and the policies of the President."




JAMES D. PHELAN

JAMES D. PHELAN—three times Mayor of San Francisco.

Prevented renewal of franchise of old Geary street railway, San Francisco, thus making present successful municipal line possible.

Appointed first woman who ever held an important public position in San Francisco.

Served as regent of the University of California.

Commissioner to secure re-enactment of the Geary Asiatic Exclusion Law.

Commissioner for Hetch Hetchy legislation before Congress to secure a mountain water supply for the cities around San Francisco Bay.

Commissioner to Europe by appointment of President Wilson to support the United States Government's invitation to foreign countries to participate in the Panama-Pacific Exposition.

Secured appropriation of \$500,000 for United States building at the Panama-Pacific Exposition.

Declined ambassadorship to one of the great European nations, preferring service at home.

Led in the fight for a new charter for San Francisco, which insured home rule, civil service reform, responsible government and municipal railroads.

Raised standard of pay for laborers in the city employ.

Head of the San Francisco Relief Committee in the disaster of 1906.

Appointed by the President custodian of the relief fund aggregating \$10,000,000.

Worked and spoke before the Legislature for the enactment of an anti-alien land ownership law.

Experienced, capable and untrammelled, he would have but one client in Washington, the people of his native State.

Elect the man who can help California in Washington

THE DAIRY

AMERICAN CHEESES SHOULD BE MADE POPULAR

American cheese makers are being urged by the U. S. Department of Agriculture to take advantage of the present excellent opportunity to establish a reputation for their products that will outlive the present disturbance in international commerce. European cheeses have long been popular in this country, and it is a popular belief that they cannot be equaled by the domestic product. For example, in the fiscal year ending June 30 a total of 63,784,913 pounds of cheese were imported into this country. It is not yet possible to say to what extent this trade will be interfered with by the war, but it is certain that the imports for the current year will be much less than they have been in the past.

There is no reason why some of this deficiency cannot be made good at home if the farmers will furnish the milk. Already American cheeses have been made which rank, in the opinion of experts, fully as high as foreign cheeses of the same class. The popular preference for the imported products, however, has hitherto prevented these cheeses from selling on their own merits in competition with European produce.

One of the most striking instances of this is Limburger cheese. In quality and price American cheese of the Limburger type long ago drove its foreign rival out of the market. Practically no foreign Limburger has been imported into this country for many years. Many consumers, however, have clung to the belief that they were eating a foreign cheese. There is no reason at all, why they should not now know that the American product is exactly as good as the foreign. Moreover, now that some of the more expensive types of highly flavored foreign cheeses are not likely to reach us for a long time, the demand for Limburger should be greatly increased. The market thus created should remain a good one long after the present conditions have been remedied; for once the consumer becomes accustomed to the American product he is not likely to abandon it for a more expensive foreign one which is no more satisfactory.


Much the same is true of cheeses of the kind popularly described as Swiss. Cheese of this variety is made exactly as well at home as abroad. In the past, it is true, American makers have been confronted by several difficulties, but government investigations

have solved many of these problems and it is now possible for expert cheese makers to turn out Swiss cheese of uniformly high quality.

Camembert has been made in America with some success already. This variety has suffered more, however, from actual opposition by the promoter of the imported article than other kinds. Camembert is ripened quickly and reaches the consumer within a month of manufacture. This is, therefore, an opportunity for the American maker freed from competition to sell his article and by the fuller opportunity to work his factory, to perfect his method to such a degree as to hold that market when competition returns. Though more perishable than Cheddar, Swiss and some other varieties, this should not prove to be a serious obstacle to increasing the output, for Camembert of the best quality always commands a good price.

In addition to Camembert there are a number of other fancy foreign cheeses which are popular here and which could doubtless be imitated successfully by American cheese makers after a little experimental work. Among these varieties are Edam, Gouda, Parmesan, Roquefort, Stilton and Gorgonzola. Although there seems to be no reason why such cheeses should not be made in the United States, they do not, in the opinion of the experts, offer at the present time the most promising field for American cheese makers. For the present at least it would be better for them to encourage the demand for standard types, such as Cheddar, Swiss, Limburger, Pineapple, etc. The field for Cheddar is particularly promising because of the fact that the flavor of this cheese, while always distinctive, can nevertheless, be made to vary widely. This variation enables it to act as a substitute for a number of other varieties. In short, the experts in the Department of Agriculture are confident that with care and foresight at the present time the American producers will do much to place American cheeses on a permanent equality with the European varieties and sweep away a prejudice that has held back the industry in the past.

As long as the general public believes that the imported product is necessarily the best, the tendency on the part of the American manufacturer is inevitably to turn out goods that



"Full milk pails all thru the dry season, while neighbor's cows are dry."

—that's what O. H. Holmes, Clatskanie, Oregon, writes as his experience in feeding Larowe's Dried Beet Pulp.

It is the one best feed for dairy cows, both as a milk producer and conditioner. Fine also for horses, hogs, poultry and other live stock. Larowe's Dried Beet Pulp can be had either plain or with molasses. Some prefer the molasses-dried on account of its sweetness, but stock will eat either with great relish.

ONE TO 5 LBS. MORE MILK PER COW A DAY

Larowe's Dried Beet Pulp is clean, wholesome, appetizing; aids digestion; contains five times as much nutriment as silage with as great or greater succulence—swelling to fully six times its original bulk when moistened. It will not only increase the quantity and quality of milk, but keep the herd in better health with less bag trouble and greater contentment. Try it now. Go to your feed dealer today and buy one sack. Test it on one cow whose milk record you know, and watch results.

Write for booklet, "PROFITABLE FEEDING"—giving valuable information on feeds and feeding; also instructions for using dried beet pulp. Your name and address on a postal will bring you a copy free.

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JERSEY TYPE JERSEY QUALITY

We have a few handsome, vigorous young bulls out of our best cows and sired by MERRY MAIDEN'S CONQUEST, a son of MERRY MAIDEN'S 3D SON, Grand Champion Jersey bull at St. Louis Exposition. By owning one of these bulls you can introduce into your herd the blood of one of the best bulls of the breed. Come and see our herd or write your needs. Prompt attention to correspondence.

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Exceptional Opportunity TO SECURE THE TYPE, WELL BRED, REGISTERED BULL, RIOTER OF THE GOLDEN WEST

Pedigree:	Grand Riotor (57524)	Recorder (29239)	Combination 3d Brown Bessie
		Calcia (20208)	Herotas Calcium
	Leek's Fern McPherson (176330)	Fame's Silver Pedro (40056)	Pedro's Silver Riotor
		Dodge's McP. Pansy (174413)	Pedro's Fame Landseer Riotor Lass Marion's Pansy

This bull is 3½ years old, a fine individual, and will make a profitable sire for some one... Price, \$400.

Willowwood Jersey Farm TULARE, CALIFORNIA.
C. G. McFARLAND, Owner.



PILOT OF THE GLEN.

The most widely known Guernsey bull in the West. Owned by Frank Reed Sanders, Mesa, Arizona. His show record in 1913: First at Indiana State Fair, first and champion, any age, at Kentucky State Fair, first, champion and grand champion at Tennessee State Fair, Illinois State Fair, Arizona State Fair and Pacific International Live Stock Show.

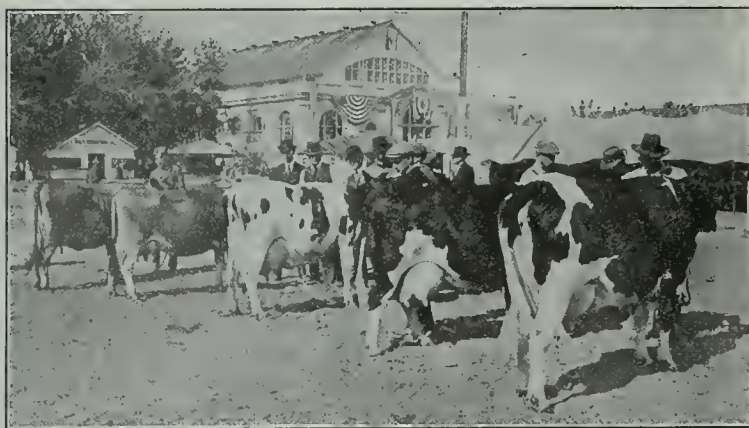
In 1914 he was first and champion at Kentucky State Fair, first and champion at Kankakee, Ill., first at Illinois State Fair, where 102 head of Guernseys were entered, and second at Forest City Fair, Cleveland, Ohio, where 106 Guernseys were entered. Shown with his half sister, Yankee Girl of the Glen. As produce of dam he has not been defeated this year.

GUERNSEYS

—beauty
—production

I offer several richly bred bulls, among them a young bull whose four nearest dams aver 746 pounds butter fat in one year. Also a few cows and heifers of rare merit.

FRANK REED SANDERS, MESA, ARIZONA



The class entered for the Northern Pacific cup for best dairy cow of any breed at 1914 Washington State Fair. The winner was the Holstein cow, Chimacum Wayne Boone, owned by Wm. Bishop, Washington. She is the middle cow in the group. The second cow from the right is Sweet Marie Ormsbee, the Grand Champion Holstein cow owned by E. B. Marks.

will sell because of their low price, not because of their high quality.

The best way to remedy this condition of affairs and to make friends for domestic cheeses of foreign type is for American makers to label their products frankly as American goods. This will give the consumers an opportunity to compare our best home-made products with the imported article. The result will be the removal of a long standing prejudice and an added incentive for manufacturers to improve the quality of their products. It is thought that this can be done and the price still kept below that necessarily demanded for imported cheese. But any temporary advantage gained by the present situation can not be maintained unless American cheese makers work for quality of their products. Eventually, they will again be obliged to compete with Europeans who for generations have looked upon cheese making as a fine art.

FRANK REED SANDERS ADDS FAMOUS GUERNSEYS TO HIS HERD.

There is probably no breeder in the United States more widely known on the show circuit than Frank Reed Sanders, proprietor of El Rancho Palo Verde, Mesa, Arizona. Mr. Sanders is still a young man, but has had experience with cattle and hogs on two continents.

His experiences are interesting, particularly on account of the effect his early training is having upon his present day operations. He was born in New Hampshire, and while still in his teens was given a commission to go to Russia to buy sheep. Being unable to procure the stock which he wanted in Russia, he went to England. It was while on this trip that he visited for the first time the Islands of Jersey and Guernsey and viewed most of the famous herds of dairy cattle that take their names from those Islands. Also he visited Holland and studied the Friesian cow in her native pastures, and it must have been here that he became a Dutch Belted fancier.

For years his Dutch Belted herd has been one of the most notable features of the eastern show circuit, and it has become the most famous show herd of the breed in America. Only a few years ago Mr. Sanders bought his Arizona ranch and brought part of his Dutch Belted herd to that state, leaving another complete herd on the New Hampshire farm. The Arizona herd has been shown at the principal Pacific Coast fairs and has won practically all first prizes and championships wherever shown.

After coming to Arizona, Mr. Sanders began to interest himself in other dairy breeds, more particularly Guernseys, and it is of these that we will speak a little further along.

There is one characteristic to which Mr. Sanders undoubtedly owes a large measure of his success with dairy cattle, and that is an almost uncanny memory for individuals and pedigrees. It is related of him that he once dumb-founded a breeder on the Jersey Island by walking into his herd and calling the cows by name. He had visited the herd once about a year before this, during the absence of the owner, and

his remarkable memory of individuals enabled him to correctly name the individuals in the herd.

His success in the show ring in this country has been phenomenal, and each year he takes out a herd of two or three separate breeds from Arizona and puts them into the show rings of the biggest eastern fairs. That his selections have extraordinary quality is proven by the consistent winnings in the hottest competition.

If we remember correctly, he showed Dutch Belted, Guernseys, Holsteins and Ayrshires successfully last year, and this year he has made a notable showing with Dutch Belted and Guernseys. At the principal eastern shows most of the first prizes and championships in the Dutch Belted classes were won by animals in his herd or by animals bred by him.

Two of the most conspicuous members of his Guernsey herd are the great bull Pilot of the Glen, and the cow Yankee Girl of the Glen. Both of these are out of the great cow Sweet Clover of the Glen, and showing as produce of dam they have not been beaten in the show ring this year. Their pictures and show records are published elsewhere in this issue.

While on the eastern circuit, Mr. Sanders has picked up a very choice selection of Guernseys to be added to his Arizona herd. Among them are such cows as Imp. Marianda of the Hourards, Imp. Beauty of the Bailloterie, Imp. Modele 2nd, Imp. Darby's Queen, Silver Bell of the Glen and Butternut of the Glen.

A very promising young herd sire has also been secured. This young bull Mascot of the Glen, has a dam that lacks but five pounds of having a 700 pound butter fat record in one year. His granddam has a butter fat record of 672 pounds in one year, and his dam has eight sisters averaging over 650 pounds of butter fat in one year. He is a splendid individual, rich in color, and a show bull of no mean quality. He seems to be the proper mate for the excellent females in the Sanders herd.

Mr. Sanders is doing work of the most commendable nature in advancing the dairy interests of Arizona, and particularly of Salt River Valley, that great fertile valley watered by the waters from Roosevelt dam. The writer spent some time in this valley last year and saw a great many of the dairy cows that Mr. Sanders had brought in from the east for the dairymen of that section. Their high quality was an evidence of unusual judgment in selection, and their wide distribution over the valley makes a foundation for the upbuilding of Arizona dairy herds.

C. G. McFarland, owner of Willowwood herd of registered Jerseys, Tulare, Cal., recently sold the choice cow Ideal's Rose of St. Lambert to W. E. Ward of Lancaster. She was on yearly test and was going at a 450 pounds of fat rate. Mr. McFarland also sold Gertie's son to R. L. Waltz, and a son of Gertie's son to Mrs. Gray of Tulare, along with a good Glenwood cow.



Don't Feed Butter Fat to the Hogs

To get every ounce of butter fat from your milk, the bowl of your separator must spin swiftly and smoothly. This requires a special oil. The oils you use on your other farm machinery are not suited to the delicate, high speed mechanism of the separator.

Standard Hand Separator Oil

is of just the right body to quickly reach those finely adjusted, close fitting bearings. That is why it will give you perfect lubrication. If a better separator oil could be made, we would make it. Dealers everywhere.

Standard Oil Company
(California)

Geo. A. Smith's 5th Sale of Registered Stock Corcoran, Cal. Saturday, December 12, 1914



ONE OF THEM

85-Registered Holsteins-85

THE BEST LOT I HAVE EVER OWNED.
COWS—BRED HEIFERS—HEIFER CALVES AND BULLS.
From the best blood of New York, Wisconsin, Pennsylvania and California. EACH AND EVERY ANIMAL has been most carefully selected. There is not a single cull. They have outstanding QUALITY. They represent the BEST OF BREEDING. They carry the blood that has produced WORLD'S CHAMPIONS. They are PROVEN PRODUCERS. Cows with A.R.D. Records—Cows now on Year's Test, doing great work. Cows bred for PRODUCTION and DOING what they are BRED TO DO. Sons, Daughters, Grandsons and Granddaughters of the GREATEST Sires of the BREED. Cows and Heifers bred to a son of a WORLD'S CHAMPION COW.

WRITE NOW FOR SALE CATALOGUE.
GEO. A. SMITH. CORCORAN, CAL.

STOCK SHOW AT OREGON STATE FAIR

The showing of live stock at Oregon State Fair, Salem, Ore., was of a high order this year and was characterized by a number of features that marked progress in the breeding of Oregon stock. This was quite markedly evident in the Percheron horse classes, which brought out a large number of native bred animals of more than good quality.

The beef cattle classes were filled with entries fully up to the quality of previous years. The Shorthorn herd of James H. McCroskey & Sons of Washington was particularly well fitted and in fine bloom. All championships were awarded to this herd.

In the Hereford classes George Chandler captured all championships. His 2-year old bull, Gay Lad 8th, is an individual of outstanding quality and was an easy winner.

The dairy cattle classes were well filled in three breeds, and with some competition in a fourth. Jerseys led in number of exhibits and competition was particularly keen. After winning a large number of firsts members of C. P. Hem-bree's herd captured all championships in the female classes and the junior bull championship. His heifer, Noble Peer's Jewel, was made grand champion female in rather faster company than that in which she won the same honor at the California State Fair.

The sensation in the bull classes was Morocco's Pioneer, owned by Glen Tana Farm, Washington. He is a remarkable 2-year-old of rare quality.

The numbers and quality of Guernseys shown were a distinct advance for the breed at this fair. The first prizes were quite well distributed among four exhibitors. The herd owned by I. A. and J. Hughes was especially strong in the bull classes, while D. H. Looney's herd showed to great advantage in the female classes. Looney won all cow championships, while the bull championships were shared by Hughes and Gile, with the Hughes bull, Kitchener's Governor of Gile, as grand champion. This bull is an outstandingly good one and Lord Kitchener was formerly at the head of Charles G. Lathrop's herd at Stanford University, California.

The Holstein classes brought out a great lot of quality and honors were earned in all classes. John L. Smith of Hazelwood Farm, Washington, made a strong showing and was especially formidable in the group classes. His bull, Hazelwood Ormsby Posch, won grand championship honors over stiff competition.

E. B. Marks of Washington brought down a herd that was a strong contender at all times.

William Bishop, also of Washington, made an excellent showing, winning grand championship in the cow classes on his splendid cow, Cascade Marie, that was at the Washington State Fair.

Two herds of Ayrshires were entered. Walter Domes took down the bulk of firsts and all championships. There were representative herds of Brown Swiss, Red Polled and Galloway cattle shown with little competition.

The swine show was of high average quality and was of more than passing importance because of the large number of exhibitors.

The Berkshire show at the 1914 Oregon State Fair brought out practically all of the champions of the Northwest circuit. Laurel Champion, the \$750 grand champion boar of the Spokane Interstate Fair, went into the ring at Salem and was made first aged boar, senior and grand champion boar. He is a son of Rival's Chamelon Best, bred by Prof. C. F. Curtis, Ames, Iowa. Laurel Champion was first junior yearling boar at the 1912 Iowa and Minnesota State Fairs before coming West, and was grand champion boar of the 1913 Spokane Interstate, Walla Walla and Washington State Fairs. He is owned at Winona ranch, Grants Pass, Oregon. Big Four was first junior yearling and reserve grand champion boar at Salem, although the competition in this class was close between him and The Grandson's Duke, an outstanding son of The Grandson, grand champion boar of America in 1912, now at the head of D. D. Warnock's herd, Dayton, Oregon. Big Four was given the blue on account of superior length and scale. He is the junior herd boar at Winona ranch. Royal Lee 25th, a son of the famous Winona brood sow, Princess Royal S., was awarded first under one year and junior champion boar. In the under six months oar class, Warnock's two sons of The Grandson's Duke took first and second over two pigs sired by Baron Premier 100th. In the sow classes the Winona junior yearling, Master's Lady Premier 6th a daughter of the California grand champion boar, Artful Masterpiece, was made junior champion sow. The most interesting contest of the show among the sows developed in the under year sow class where Duke's Lady Value 15th the great Eastern gilt bred by E. J. Barker that was very commonly picked as the best under year sow in the east, came into the ring competition with Silbira Duchess 15th, a western bred daughter of Laurel Champion that had been junior and reserve grand champion sow at the Spokane Interstate and the Washington State Fairs. Warnock also had two splendid gilts in this class that had not been shown on the circuit before. These four animals are unquestionably the four best individuals ever put into the Salem ring in this class. The award went to the western gilt Silbira Duchess 15th, with the eastern sow, Duke's Lady Value 15th, second and Warnock's two gilts third and fourth. Silbira Duchess 15th got the blue on better pasterns, tyler head, more level tail setting and better carriage. Duke's Lady Value 15th was placed ahead of the rest of the class because of greater scale and substance. Later Silbira Duchess 16th was made junior and grand champion sow of the show. This award gave both grand championships to Laurel Champion and his get. In the under six months sow class Aldora Duchess 3rd, a gilt bred by A. J. Lovejoy & Son and considered by Mr. Lovejoy to be about the choicest of his spring pigs, was awarded first in a very strong class of youngsters. William Pollock took second in this class on a Winona bred gilt. Two daughters of The Grandson's Duke shown by D. D. Warnock, and both outstanding pigs,

—milk —butter —individuality

are all indicated in high degree in this grand young bull that we are offering. He was dropped February 7, 1914.

The records of his two granddams average:
28.65 pounds butter in 7 days, 133.30 pounds butter 30 days. An exceptionally well bred young bull in whom flows the most productive and popular blood of the breed.

PEDIGREE:

SEGIS PONTIAC DE KOL BURKE 97472.
First prize bull calf at California State Fair 1912, and head of the first prize calf herd at same fair. First prize 2-year-old bull at 1914 California State Fair. A son of the coming young sire KING SEGIS PONTIAC EMPEROR, and RIVERSIDE SADIE DE KOL BURKE, the greatest milk producer of the breed. Her one day's milk record is the second largest ever made, being exceeded by about a pound. Her seven day record is first by over 25 pounds, and all her other milk records up to 5 months are far in the lead. SEGIS PONTIAC DE KOL BURKE cannot fail to make his mark as a sire.

DE KOL OF VALLEY MEAD 4th 182594.
Butter 7 days, at 2 yrs. 4 mo., 20.65 lbs.
Butter 30 days 80.85 lbs.
Now on year's test and in 224 days has produced 11,920 lbs. milk and over 400 lbs. butter fat.
Full sister to DE KOL OF VALLEY MEAD 2nd, butter 7 days at 4½ yrs., 26.54 lbs.; 30 days 107.80 lbs. In her 3-year-old form she made 17709.3 lbs. milk and 906.27 lbs. butter in one year. She will finish another year's test on Nov. 2d, and is practically certain to make over 20,000 lbs. milk and over 1000 lbs. butter. DE KOL OF VALLEY MEAD 3d, butter 7 days, 25.16 lbs. As a 2-year-old made 14,998.6 lbs. milk and 642.64 lbs. butter in one year.

KING SEGIS PONTIAC EMPEROR 72287.
His sire, KING SEGIS PONTIAC, was by KING SEGIS and from PONTIAC CLOTHILDE DE KOL 2nd, the first 37 lb. cow and likewise the first cow to produce 1000 lbs. butter 1st in one year. His dam was by PONTIAC KORNDYKE and a 28 lb. cow. He is a ¾ brother to KING SEGIS PONTIAC ALCARTRA, in which a half interest was recently sold for \$25,000.

RIVERSIDE SADIE DE KOL BURKE 70708.
Milk 7 days 920.8 lbs.
Milk 30 days 3735.6 lbs.
Milk 1 yr. 28,826.8 lbs.
Milk 2 yrs. 64,808.2 lbs.
Butter 7 days 32.29 lbs.
Butter 1 yr. 1085.13 lbs.
Butter 2 yrs. 2065.29 lbs.

RIVERSIDE SADIE DE KOL BURKE.
Butter 7 days, 27.50 lbs.
Milk 1 yr. 15,932.9 lbs., butter 743.03 lbs.
SADIE DE KOL ACME.
Butter 7 days 22.49 lbs.
1 year 885.91 lbs.; milk 1 year 18971.1 lbs.

ARALIA KING 86337.
The records of his two nearest dams average 27.88 lbs. butter in 7 days. A son of ARALIA DE KOL, who holds the world's records in the semi-official division for a cow of her age for both 1 and 2 years.

DE KOL OF VALLEY MEAD 61218.
Butter 7 days 25.01 lbs.
Butter 30 days 95.45 lbs.
3 A.R.O. daughters.

KING SEGIS PONTIAC 4444.
30 A.R.O. daughters, 9 with records of 20 to 23.17 lbs. 6 A.R.O. sons. Sire of KING SEGIS PONTIAC ALCARTRA, in whom a half interest was recently sold for \$25,000; KING SEGIS PONTIAC CHICAGO that sold in public sale for \$20,000 at age of 4 months.

QUEEN OF THE PONTIACS 104639.
Butter 7 days at age of 2½ yrs., 15.44 lbs., milk 333.30 lbs., average test 3.71%.

DE KOL BURKE 22991.
70 A.R.O. daughters, 6 above 30 lbs. 24 others from 20 to 27 lbs. 36 A.R.O. sons, 43 producing daughters.

PAULINE SADIE DE KOL 47448.
Butter 7 days 19.69 lbs.
Milk 7 days 478.70 lbs.
daughter of PAUL DE KOL 3d.

RIVERSIDE TOMMY 46136.
One A.R.O. son. A son of JULIANA KING OF RIVERSIDE and ROWENA MAID 2nd's B (25.62 lbs.).

ARALIA DE KOL 55194.
Butter 7 days at age of 12 yrs., 30.14 lbs. Butter 30 days 122.30 lbs. Butter 1 yr. 1142.32 lbs. Butter 2 yrs. 2193.04 lbs. Milk 1 yr. 28,090 lbs. Milk 2 yrs. 50,993.4 lbs. 2 A.R.O. daughters.

DE KOL 2nd's ALBAN 17064.
13 A.R.O. daughters; 10 above 20 lbs.; 19 A.R.O. sons, 14 producing daughters.

LADY VALENCIA 6382 H 26 lb. 3 producing daughters.

THIS IS A RARE OPPORTUNITY TO SECURE A BULL OF EXTRAORDINARY PRODUCTIVE VALUE TO HEAD A PURE BRED HERD. PRICE ON APPLICATION.

A. W. Morris & Sons Corporation

WOODLAND, CALIFORNIA



MUTUAL FOBES LONGFIELD DE KOL.

Grand Champion Holstein-Friesian Bull at Washington State Fair, 1914. Owned by E. B. Marks.

were third and fourth.

Winona ranch brought out the first prize under year herd consisting of Royal Lee 25th, Silbira Duchess 15th, Duke's Lady Value 15th and Berryton Belle 31st. This latter gilt drew a great deal of favorable comment because of her extremely broad back, well sprung ribs, smooth shoulder and excellent hams. She has the typical English type of head, which is not enough dishd to fit the American show requirements. She is a wonderfully good gilt nevertheless. D. D. Warnock took the second young herd, Winona ranch third and Warnock fourth.

D. D. Warnock showed three of the best Berkshire barrows ever put into a ring in a western show. They won first Berkshire barrow; first pen of three Berkshire barrows, and afterwards in the open classes they won grand champion barrow and grand champion pen of

barrows over all breeds

The Duroc-Jersey classes were filled with entries from several herds of very good quality and honors were well won. J. W. Fruitt's herd won all sow championships, and his good young boar, King Ring, was made junior champion, but was nosed out for grand championship honors by the aged boar, Golden Rod, owned by G. M. Harvey.

There were eleven herds of Poland Chinas in the pens and all of the classes were hotly contested by well-fitted hogs of excellent type. Thomas W. Brunk made a notable showing of medium type Polands and was an easy winner in all the sow classes except the aged class, and was unbeatable in the group classes in which he had entries. The boar championship went to a choice specimen of the large type Poland owned by J. R. Cole.

The Leader of Them All



The First Completed Working Exhibit.

on the Panama - Pacific Exposition Grounds is the Ideal Green Feed Silo, 16x35 feet, 140 tons capacity, erected by the De

Laval Dairy Supply Co., San Francisco.

The photo shows this IDEAL GREEN FEED SILO. It is the first of six silos to be erected and used by the Exposition Company during the Fair in connection with the Live Stock and Dairy Department.

Make Hay While the SUN IS NOT Shining

by putting your last crop of alfalfa in an Ideal Green Feed Silo.
YOU NEED NOT WAIT ON THE WEATHER MAN
if you have an

IDEAL GREEN FEED SILO

in which to put this last cutting of alfalfa. It will make better feed as silage than when cared for in the usual way. A great many Pacific Coast farmers have tried out this plan and are enthusiastic over it.

If interested write for testimonial letters
and descriptive circular D

ALPHA GASOLINE AND DISTILLATE ENGINES

De Laval Dairy Supply Company

Drumm and Sacramento Sts.,
San Francisco.

1016 Western Avenue,
Seattle, Wash.

EVERYTHING FOR DAIRY AND CREAMERY.

HOLSTEIN BULLS

We offer a few choice registered Holstein-Friesian Bulls out of dams with A. R. O. Ancestry close up. Write for prices and pedigrees.

THE McCLOUD RIVER LUMBER COMPANY,
McCloud, California.

MILLBRAE DAIRY HOLSTEINS

IN THE RIV OF ESTATE OF D. O. MILL

There is an abundance of the most productive Holstein blood in our registered herd of over 200 individuals.

The bulls that we offer for sale afford unusual opportunity to the dairyman and breeder to introduce more productive blood into his herd.

WE HAVE NO FEMALES FOR SALE.

Correspondence Invited.

Visitors Welcome.

14 Miles From San Francisco on Southern Pacific
at San Mateo Electric Car Line, ang 5th and M

MILLBRAE DAIRY
MILLERAL CALIFORNIA

THE SILO YOU CAN BANK ON.
THE 1914

WINNER SILO

Perfect in Construction. Air Tight.
Non-Stickable Doors.
Perfect Silage.

PAPEC PNEUMATIC ENSILAGE CUTTERS

Lightest running and most efficient Feed Cutter on the market, and most reasonable in price. Correspondence solicited.
Brentwood Lumber Co., Brentwood, Cal.

TEN COMMANDMENTS FOR THE DAIRY FARMER

By Charles Cristodoro In Dry-Farming and Rural Homes.

1.—Keep Healthy Cows—Keep a reasonable number of cattle and whether the number be large or small, keep them tuberculin tested; and retest, preferably, every six months, segregating but not necessarily destroying reactors. The only way to keep the herd clean: feed no milk from reacted or even untested cows, and no milk returned from creameries, to calves or other stock, unless such milk be first heated up to at least 145 degrees Fahrenheit for thirty minutes (Pasteurized), thus checking the spread of tuberculosis. This is not theory, but sound practice.

2.—Select and Keep the Good Producers—Know what each cow produces over and above her keep, and promptly get rid of unprofitable ones. A 4000 and an 8000 pound cow costs about the same to keep. One just pays for her keep, the other nets a profit of \$50 to \$60 per annum. Ascertain, carefully, your best market, whether for whole milk or butter fat. Co-operate and reciprocate with your neighbors; nothing else pays quite so well as co-operation.

3.—Use Only Pure Bred Bulls—Keep and use only a purebred bull. Upon this depends the upkeep and improvement of the herd. There is little difference in the cost of raising calves of superior and inferior breeding, but there is a great difference in the profits obtainable from superior and inferior cattle. If necessary, go into debt for a good bull.

4.—Feed Liberally—Note that a balanced ration of 17 pounds gives as much butter fat as an unbalanced 21-pound ration, and that continuous silage is sometimes cheaper than pasture. A ton of alfalfa hay equals in food value 60 bushels of oats. Keep in mind that only 100 pounds of butter fat yearly per cow costs the producer on an average 35 cents per pound; and that 300 pounds yearly per cow costs 12½ cents per pound. Thus does it pay royally to improve the herd.

5.—Produce the Feed—It pays better to market your hay and grain in the form of milk, butter fat, steers and hogs. Erect one or more silos, grow alfalfa, corn, sorghum, sweet clover, kafir corn and soy beans. Beet tops, siloed with corn, have made excellent silage. Rotate your crops. Use silage and thus secure milk-producing fodder the year around, which will enable you to keep up your milk yield during the entire year. Silage requires one-eighth the storage space of hay.

6.—Use the Manure—Remember that \$100 worth of hay (clover) contains \$85 worth of plant food; that when this is fed to the cow, three-fourths of the plant food is returned in the manure. One hundred dollars' worth of cream contains but \$1 worth of fertility, while \$100 worth of butter contains but ten cents' worth of fertility. This makes it plain that feeding hay to the cow leaves nearly all its fertilizing constituents in the manure to be returned to the land, while had the hay been sold, this fertility would have been a total loss to the soil. Either use the manure daily upon the farm, or store it in a shallow concrete pit, at a reasonable distance from the barn or milk house, and thus save

the valuable nitrogen that the ground, sun and rain would help eliminate. Keep the pasture highly fertilized. The addition of lime phosphate, etc., to a cow pasture, has meant a large increase in the yield of milk. Mortgage your farm for a manure spreader.

7.—Keep the Barn Clean and Well Ventilated—Keep the barn well lighted, ventilated and securely fly screened. Keep it clean. Nothing is more important than cleanliness. Keep the cows clean by care and abundant bedding. See to it that covered milk pails are used, and that the milk utensils are well washed and then scalded. Do not throw down hay to the cows an hour before milking. See that the milkers are healthy and clean persons, who wash their hands carefully before milking. Remove milk pail, when full, at once from barn, and strain the milk through cotton or gauze, or better, clarify it with a clarifying machine. Even the best milk produced demands clarification and pasteurization to insure absolute cleanliness and safety at all times. From first to last let care be taken to keep the milk clean and free from contamination of any kind. Never be without a dairy thermometer in the milk house, and use it.

8.—Keep the Cows Comfortable—Remember that the dairy cow is a daily revenue producer, and is the most valuable asset on the farm. She requires work, and is profitable in proportion to the attention she receives. She is a source of immediate income, and at the same time helps keep up the fertility of the soil. Also remember that the dairy cow is a mother, and that good care, kind and gentle usage, liberal feeding and healthful environment are necessary if she is to give good profit from her motherhood. As you measure to the cow so shall it be measured to you in return.

9.—Be Considerate to the Cows—During milking time use no profane language. Keep dogs and strangers out of the barn. Become acquainted with and know your cow. It pays. Under no circumstances permit a cow to be kicked or abused by the hired man—it never pays. It is mean and brutal as well. There always is some reason for a cow's being restless. Find the cause and remove it.

10.—Provide Shade and Wind Protection—Provide ample wind protection, shade, salt and clean water. He who obeys all of these commands will reap abundant profits, for he who sets apart the gross products of a succession of single good cows regularly for 50 years, and keeps the accumulations at 6 per cent interest, will, at the age of 70, have to his credit not less than \$30,000.00. Note well, that a thrifty steer may gain 500 pounds in a year which 500 pounds reduced to a dry food basis of weight amounts to but 60 or 70 pounds. A cow yielding 8,000 pounds of milk per annum, will produce 960 pounds of dry food matter, milk solids. And note that the dairy cow has increased the total bank deposits in the state of Wisconsin three hundred per cent in ten years. A business asset.

WAR TIME FARMING

Increasing Production to Meet the Increasing Demand.

By M. R. D. OWINGS.

Opinions vary as to exactly what effect the war will have on different lines of business. There can be no doubt, however, that the DEMAND FOR FARM PRODUCTS FROM THIS COUNTRY WILL CONTINUE AND WILL INCREASE. If war continues, and that seems probable now, the people staying at home in those countries, as well as the armies, must have food and clothing, and with all sources of supply closed or very short, the American farmer has a great duty to perform. With so many people withdrawn from the fields of foreign countries, it is up to the American farmer to INCREASE PRODUCTION, to feed his fellow Americans as well as the people of foreign countries.

If peace comes soon the loss already caused will make a stronger demand than ever for the necessities.

So the demand is there, and will be, any way you figure it.

This is no time for Americans to hoard their savings. Money will not work if buried. The man employing his capital wisely and energetically for the next few years will benefit himself and humanity more than ever before.

There can be no doubt of the increased demand for the necessities of life, such as wheat, corn, bee, dairy products, pork, leather, etc. The amount of capital destroyed in a war lasting only a few weeks creates an enormous deficit that can only be made up by increased production from the soil, in the hands of the farmer and his helpers. For the sake of humanity, the price of these necessities must be kept at reasonable levels, and the spirit of our people, reflected in emergency laws if necessary, is bound to guard against ex-

tortion from unfortunate ones. Prices will increase, but not outrageously so. That would be worse than usury.

Here, however, is what interests the American farmer, the dealer who supplies him with tools, and with service to make those tools do good work:

EVERY ACRE NOW UNDER CULTIVATION MUST PRODUCE MORE, and we must put more acres under cultivation. The last is not so important as the proper use of the land already being farmed. How can this be done at least cost? Farm labor is scarce and high-priced in many localities, principally because able bodied workers would rather lead a drab existence in crowded towns than in the bright sunlight and fresh air of the country. You can't blame them much if they have never known the freedom of the country, or the profit and independence to be had there. That is their misfortune, and not the farmer's fault. Any farmer who has to hire help, though, knows he loses many a dollar in a year because the average farm hand, working by the month, is not as eager to get as much done as the farm owner is. As an average thing, we venture to say the "loafing" bill of the American farm is a much heavier burden on the farmer than all the interest he pays on money invested in farm machinery.

Increased Production by Dependable Farm Power.

If human labor is short and expensive, increased productions means more and better use of mechanical power machines. Chief among these are (1) the gasoline or kerosene engine, both stationary and portable, in many sizes for many jobs; (2) the tractor and its plows, harrows, pulverizers, packers, etc.; (3) the cream separator, turning grass, ensilage and hay into butterfat at good prices and letting the fertility go back to the land in the shape of manure, and turns skim-milk into pork at 8c to 9c per pound; (4) the manure spreader, building up fertility of the soil every day; (5) the ensilage cutter, storing all the nutrition in corn, kafir, etc., to make beef and butter, besides saving much hard feeding on cold, rainy and windy days, when fingers are numb, and the fodder is trampled in the mud or a good part of it blown away and lost.

The essential point that must be brought home to the farmer is the profit to him in using these power aids as against the great muscular and slow effort required with man and horsepower. Consider for a moment the matter of plowing. A seed bed nine or ten inches is regarded as deep in this country. Can the ordinary farmer, in ordinary soil, get his seed bed prepared to that depth at just the right time, even though he realizes that extra two inches or so means just that much more room for plant roots to work in and that much more organic matter added to the soil thus broken up? If he uses horses and walking plows, with hired hands, he can't get all the acres plowed that he should, or if he does they are not done at exactly the right time and when the soil conditions are best.

From the farm comes nearly all of life's necessities. Now, this fall, winter and next spring is the important time for the farmer to use to the utmost every mechanical aid he has or can reasonably acquire to provide and insure increased yields, in crops as well as live stock, and dairy products. This means more tractors, for fall plowing, more ensilage cutters used in the making of silage for beef and milk animals; more husker-shredders, feed mills, shellers, and hay presses to handle the larger amounts of feed necessary in making beef for the increased markets. All the farmer's advisers, from the state experiment stations down to the smallest farm paper, are urging the farmer to utilize every scrap of feed

on the farm, to turn it into beef, pork and milk. The best way to help him do that is by providing the machines to do it with in the cheapest way.

Fall Plowing With Tractors.

There are dozens and hundreds of communities where a medium sized tractor and automatic gang plow, if bought jointly by several farm owners, or by one reliable operator backed by several others, will yield big returns in increased crops next year by storing up humus and moisture through plowing this fall. Early fall plowing gives trash, when buried, a longer time to rot and enrich the soil. More water and air is admitted; loosened soil in the fall lets the winter act more freely to break up and make fine the particles of soil so they are more readily worked upon by the plant roots in the spring.

Insure Against Dry Weather.

The men who plowed their fields last fall have not suffered as much from drought as those who plowed in the spring. The fall plowing stored up water from the winter and early spring rains. If you have read the crop reports this dry spring and summer, you must have noticed many complaints of burned-out crops where shallow spring plowing was done (particularly in the spring wheat section), while summer fallowing had stored up moisture that successfully resisted the severe drought.

Why not have this insurance of sufficient moisture on more farms in your community? If the drought hits next year, as it always does to some extent one year or another, plowing in the spring, even though deep, will be too late to conserve the moisture from the winter snows and early spring rains. The farmer says he has too many other things to look after in the fall to get around to fall plowing, possibly. That's just the point. It doesn't need to be a six-weeks job. He should know what a good tractor will do for him. That is the very need you want to fill, to his profit and yours.

From all points of view, one can't get away from the fact that there are great advantages in the use of traction power on the farm, and particularly for plowing. For good yields, the seed bed should be roomy; it should be deep, of good tilth and rich in organic matter so that it will readily absorb heavy downpours of rain, and hold the water until it seeps into the deeper subsoils.

Beef Steers, fair to prime, \$8.40 to \$9.50 per cwt.

Butter, firsts to extras, 27c to 30c per pound.

Those are market quotations of August 21, 1914. Pretty good prices, and they are bound to stand up pretty well. Many groups of farmers cut the cost of beef feeding by having their silos filled with an ensilage cutter owned in partnership. Many buy a cutter of their own, and thus fill their silo when they please and when the crop is right. Their neighbors have to wait, unless they too have a cutter. The point is, the silage is provided for making beef all through the winter, when any lack of succulent feed and too much exposure stunts growing steers.

The same is just as true of silage for dairy purposes, if not more so, because dairy cows, if protected through the winter from cold and fed a good grade of silage, pay their owners a big profit over those cows that are expected to weather the cold rains of winter to get what food they can from broken fodder that has stood in the field until most of its food value is lost. A silo means an all the year pasture, and a silage cutter should be used when the crop is just right to be put away. It is up to the farmer to determine whether he can depend upon a jointly owned cutter for his work. Some can, and some would lose money by doing so.

WILLOWMEAD HOLSTEIN - FRIESIANS



INKA TRITOMIA 2ND.
Grand Champion Cow at California State Fair, 1913 and 1914.

Herd headed by DUTCHLAND SIR KORNDYKE COLANTHA, whose sire DUTCHLAND SIR PONTIAC RAG APPLE is full brother to Pontiac Clothilde De Kol 2nd, former world's champion butterfat producer for 7 days and 1 year. Also full brother to PONTIAC RAG APPLE, the world's champion 4-year-old that sold for \$8,000.

Dam, DUTCHLAND COLANTHA MONA, world's champion 3-year-old milker, and a granddaughter of COLANTHA 4th's JOHANNA, former world's record cow.

CHOOSE YOUR STOCK Sired BY THE ABOVE SIRE FOR SALE.
JAMES MCGILLIVRAY
Route 1
SACRAMENTO, CAL.

OUR HERD OF REGISTERED

Holstein - Friesians

IS HEADED BY

KING MEAD OF RIVERSIDE 50290

We offer a number of young bulls of exceptional merit, sired by KING MEAD OF RIVERSIDE, and out of A. R. O. cows. Also a few young bulls from dams to be placed on test this fall, which will add greatly to their value after they have left us.

We also have three yearling bulls, sired by LAKESIDE MODEL PRINCE 68712 from A. R. O. dams.

Write or visit us for any particulars.

J. H. HARLAN & CO. WOODLAND, CALIFORNIA

Sunnyside Herd of Holstein - Friesian Cattle

Sons of ARCADY PONTIAC WAYNE HENGVERELD, Grandson of Hengerveld De Kol, and HOMESTEAD ADMIRAL MAIDA, Grandson of Admiral Walker Gelsche, for sale. All 30-pound blood.

R. F. GUERIN, R. 3, Box 58, Visalia, Cal.

REGISTERED

HOLSTEIN-FRIESIANS

Herd Headed by
JULIANA KING OF RIVERSIDE
High-class young Bulls for sale.

B. F. ANDERSON,

ROUTE 2, MODESTO, CAL.

REGISTERED

HOLSTEIN FRIESIANS

We offer a grandson or KING OF THE PONTIACS, nearly ready for service. Splendid individual and light in color. Price, \$200.

McALISTER & SON,

CHINO, CALIFORNIA.

Registered

HOLSTEIN - FRIESIANS

H. B. COWAN

Box 512 MODESTO, CAL.

CREAMCUP HERD

Holstein-Friesian Cattle

and O. I. C. SWINE

Bull Calves for sale from A. R. O. dams, sired by a grandson of King of the Pontiacs, also by a son of Colantha Johanna Lad.

M. M. HOLDRIDGE,

WOOD COLONY, MODESTO, CAL.

REGISTERED.

HOLSTEIN FRIESIANS

Increase the value of your herd by introducing the blood of the greatest producers of the breed. We offer a number of Choice Grandsons of King Segis. Also a number of Grandsons of the world's record cow, Creamelle Vale. Write or call and inspect our herd.

F. & H. STENZEL, SAN LORENZO, Cal.

Copa De Oro Herd

HOLSTEIN-FRIESIAN CATTLE

For Sale — SIX sons of TIRZAH LA POLKA PIETERTJE LAD, who has 43 close relatives who have made 30 pounds or over of butter in seven days.

MRS. JAY WELCH, LOS BANOS, CAL.

ASK YOUR DEALER FOR

EL DORADO

Cocoanut Oil Cake Meal

For Chickens, Milk Cows, Hogs and Young Pigs. Cheapest Food in the Market Today. If your dealer doesn't Carry It, Address:

EL DORADO OIL WORKS
149 California St., San Francisco, Cal.



Raymond 8th's Desire of Lewison.

ALTA VISTA HERD

OF REGISTERED

GUERNSEYS

Owned by Estate of Chas. G. Lathrop, Stanford University, Cal. Offers for sale a number of mature cows, some of them imported, bred and unbred heifers, and some choice bulls. A number of the heifers are bred to Violet's Pride of Iowa, whose grand dam has an A. R. record of 912 pounds butter fat in one year.

Inquiry or Inspection Invited.

AYRSHIRES

Three hundred registered Ayrshires to select from. Unbeaten in the show ring. Holders of three official world's records for yearly production made under the supervision of State authorities. A Pacific Coast herd. Stock of both sexes for sale. Write for catalog, stating requirements.

WILLOWMOOR FARMS J. W. CLISE, Redmond, Wash.
Owner

HOOD FARM
Breeding Powders

Makes barren cows and mares breed readily; destroys germs of abortion; causes cows to come in season; makes cows clean without force; stops unhealthy discharges; has been used with marvelous success by thousands of breeders. Guaranteed to cure barrenness if a cure is possible. We want you to try it. Advice free.

Prices prepaid \$1.15, \$2.75 and \$5.00. Flexible Injection Tube 90c., or with \$5.00 order 75c. Order now, mentioning this paper.

C. I. HOOD CO., Lowell, Mass.

THE BEST LINIMENT
OR PAIN KILLER FOR THE HUMAN BODY

Gombault's
Caustic Balsam
IT HAS NO EQUAL

For—It is penetrating, soothing and healing, and for all Old Sores, Bruises, or Wounds, Felons, Exterior Cancers, Boils, Corns and Bunions. **Human Body**—CAUSTIC BALSAM has no equal as a Liniment.

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

Perfectly Safe and Reliable Remedy for
Sore Throat
Chest Cold
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Sore Lungs
Rheumatism
and
all Still Joints

REMOVES THE SORENESS—STRENGTHENS MUSCLES
Cornhill, Tex.—“One bottle Caustic Balsam did my rheumatism more good than \$120.00 paid in doctor's bills.” OTTO A. BEYER.
Price \$1.50 per bottle. Sold by druggists, or sent by us express prepaid. Write for Booklet R. The LAWRENCE-WILLIAMS COMPANY, Cleveland, O.

Dutch Belted Cattle

My herd of registered Dutch Belted Cattle has won at many of the principal shows of the United States in the strongest competition.

I have Young Stock of the finest quality for sale.

Write for circular and prices.

FRANK REED SANDERS
MESA, ARIZONA.




Echo 2d's Orchard Daisy
Grand Champion Female 1912 Oregon, California and Arizona State Fairs.

Pacific Herd of
GUERNSEYS
Registered stock from A. R. ancestry.
If in need of a bull write me.
C. S. RASMUSSEN
Loleta, California.

SHORTHORNS MILK STRAIN
Attention Dairymen!
I am breeding the finest stock in the West. Write for prices and pedigrees.
JOHN LYNCH Petaluma, California

YANKEE GIRL OF THE GLEN.
A noted Guernsey cow owned by Frank Reed Sanders, Mesa, Arizona. She was first prize Champion and Grand Champion cow at Pacific International Live Stock Show, Arizona State Fair, Kentucky State Fair and Tennessee State Fair, 1913. This year she was first, champion and grand at Forest City Fair, Ohio, and at Kentucky State Fair. She was third prize cow at Indiana State Fair and second prize cow at Illinois State Fair. Shown with her half brother, Pilot of the Glen. As produce of dam she was not defeated this year.



AGRICULTURE AT THE PANAMA-PACIFIC INTERNATIONAL EXPOSITION.
Agriculturists and live-stock breeders each year find a more responsive world. The interest that humanity always has had in these classes, so necessary to man's existence, in recent years has been turned to strong assistance. Colleges and universities have been giving entire departments to their interests and many schools are devoted to agriculture, excluding all other branches of study.

Special courses, demonstration trains, and active campaigns under the leadership of scientists are becoming common and are giving their studied efforts to make advance in bringing animal and vegetable to the ideal.

The Panama-Pacific International Exposition will be a university at which every phase of these industries will be treated with the care and skill of the laboratory. It will not be primary education; it will not be higher education; it will not be education by products. It will be education that includes all of these, and the visitor may choose the branch that he feels in need of most.

But the biggest appeal of this education will be the method of its presentation. It will be a plum of marvelous flavor placed in the center of the richest offering ever set before the world.

Three departments will present the strongest special features for the agriculturist and the stock breeder.

The State exhibit promises to be laboratories where the best products are shown by the men who produced them. The national pavilions will be another source to demonstrate the success of foreign scientists and workers.

New York, among other things, may show her supremacy in the production of hay, Iowa and Illinois may present interesting exhibits of corn and down the line of states and territories and among the nations special excellence will be given a proper display.

View herds, composed of animals and exhibits of poultry, which have been selected by competent authority as being typical of their several breeds, will be maintained by the various breed record and poultry associations and by states and countries on the grounds between February 20 and September 20, 1915.

In the past expositions live stock has been exhibited only a few days, late in the season. This arrangement has deprived the great majority of visitors of an inspection and study of the various breeds and types of domestic animals. Competitions in the department of livestock will take place in October and November of 1915. In addition to the \$175,000 which has been set aside as cash premiums other sums have been appropriated by associations interested, which brings the amount to \$227,000.

Milk, the one universal food, will be the object of great attention in the live stock exhibits. Its sanitary production and care is an enormous problem and the solution will be aided by the exposition displays which will show creamery appliances in operation.

Dairy demonstration will be an important event in the exhibits of live stock. Sanitary handling of milk and



A Group of Fine Heifer Calves in the Registered Holstein-Friesian Herd Owned by Estate of D. O. Mills, Millbrae, Cal.

DE LAVAL
CREAM SEPARATORS!
Make Fall and Winter Dairying More Profitable

THERE are special advantages in using a good cream separator during fall and winter months.

The milk from cows long in lactation is hardest to cream—and likewise hardest to separate with an inferior separator.

Moreover, cream and butter prices are highest, so that the waste of gravity setting or a poor separator counts for most.

Then there's the swift, warm skim-milk for stock feeding, alone worth the cost of a separator in cold weather.

There is surely no reason to delay the purchase of a separator or to continue the use of an inferior one.



You can't afford to wait until next spring. Let the De Laval start saving cream for you right now and it will earn its cost by spring.

See the nearest De Laval agent at once, or if you do not know him, write us direct for any desired information.

De Laval Dairy Supply Company
101 Drumm St. San Francisco 1016 Western Ave. Seattle


JERSEYS Choice young stock of both sexes from R. M. dams. Inspection and correspondence invited.
W. J. HACKETT, Route 2, Ceres, Cal.

VENADERA HERD
REGISTERED JERSEYS
Offers young bull calves whose dams and both grand dams are entered in the Register of Merit with good official yearly records.
Calves are sired by the Royally Bred prize-winning bulls, Altama Interest and Owl of Bellevue. Write

Rancho Santa Marguerita
REGISTERED JERSEYS
OFFICIALLY TESTED
D. F. CONANT, Modesto, Cal.
R5, Box 64

Royal Jersey Herd
Herd headed by Gertie's Son, whose dam, three sisters and two daughters average over 843 lbs. of butter per year.
R. L. WALTZ, Hanford, Cal.

Hampshire Swine
The breed that has won over all others for several years in the dressed carcass contest at International Fat Stock Show.



My herd has been selected with great care, and is headed by EL SALVATOR, winner of two silver cups in the strongest competition in the Middle West.

I have a choice lot of young registered pigs of both sexes for sale. Also a number of choice boars ready for service. Write for prices.

Frank Reed Sanders
MESA, ARIZONA.
In the Salt River Valley.

its products, the proper feeding of cows, production of certified milk, the reduction of bacterial count and the daily recording of each cow in a specially selected herd of grade animals chosen for the demonstrating of type value will be in charge of recognized authorities.

With the increase of the "high cost of living" attention has been centered in the meat producing animals and demands of various kinds in many countries are being made to increase the number of meat-producing animals. The sheep has come in for large consideration and in addition to the view herds of sheep, which will be maintained on the ground, there will be the sheep competitions which will bring out the greatest number of high-class sheep ever assembled in America.

Large premiums have also been offered in the sheep shearing contest where men and women experts of the world will present an object lesson to those interested in the production of wool. Sheep dog trials will also be held in conjunction with the shearing contests.

The poultry show of the Panama-Pacific International Exposition will include more breeds and types than any other show. The world-wide interest in this department has caused the exposition to provide accommodations for more than 12,500 birds in addition to turkeys, ducks, geese, pigeons and other fowls. Specialty clubs of the world have offered money awards, trophies, leg bands and special ribbons in addition to the cash prizes offered by the exposition.

Plans are now being worked out whereby an international egg-laying contest will be conducted on the grounds. The suggestion came from Australia and the contest will last twelve months.

A special Hall of Congresses is being erected on the live stock area of 65 acres. This building will accommodate live stock, poultry and other organizations that will hold their meeting in San Francisco in 1915. This hall will be equipped with moving pictures and magic lantern slides and every other facility for giving lectures and demonstrations.

IT DOES COST MORE.

That it costs no more to keep a good than a poor cow is one of those trite and misleading sayings which do more harm than good. It may not cost more to keep the breath of life in the body of the good cow, and it may be that on scanty feed she might show a somewhat larger production; but what makes the good cow good is her ability to digest and assimilate large quantities of feed and so change it into merchantable products of greater value. It does cost more to keep the good cow, and therein lies her value. The more she consumes the larger the net profit to the owner. She occupies no more stableroom and it requires but little more time to attend her; yet one good cow may show more net profit on feed cost than do five cows of the poorer kind.—Malcolm H. Gardiner, Superintendent Advanced Registry.

Least of all can the poor man afford to buy a cheap bull. The cheap dairy bull is a mighty instrument in the perpetuation of poverty.

Rough treatment of the dairy cow costs money. Every bull exacts its tribute of milk and butter fat, and repeated often enough may entirely ruin the cow.

Jersey Queen Farm

SAN JOSE, CAL.

Offer exceptionally well bred bulls, 4 to 20 months old, rich in blood of Stogis Pogis of Prospect, St. Pogis 5th, St. Lambert, Victor, Coomassie, and Golden Fern's Lad.

Can satisfy the most critical. Call or write.

QUALITY IN THIS SALE.

The Live Stock and Dairy Journal: My offering of 85 head of registered cattle on December 12 is the best I have ever owned and I believe the best ever offered at public auction on the Pacific coast, and will consist of splendid representatives of the leading milk and butter families of this great dairy breed. I have purchased a large number of these Holsteins from the leading herds in New York, Pennsylvania and California at high prices on account of their grand breeding and outstanding quality, but they will be sold in this sale absolutely without, reserve giving to the breeders and dairymen of the Pacific coast an opportunity to buy the cream of the greatest milk and butter producing strains at their own price, and a rare opportunity to secure some prize winners at the pail and churn and in the show ring and for the view herd at the exposition in 1915.

I have selected good seed from the leading milk and butter families of the breed, always using my best judgment, and have never let price stand between me and a good one, realizing full well that the best is the cheapest regardless of cost, and that in order to build up a great herd and procure the greatest return from the breeding and dairy business the best seed must be secured. I never buy culls nor do I ever sell any in my sales.

It is well known that N. E. Mulick of Wisconsin brought with him when he came to Glenn County three years ago some of the finest and best registered Holsteins that ever left that state. I have bought his entire herd, allowing him to reserve only one, a 2-year-old heifer, which he has presented to his son. Included in the lot are grand young cows that are real cows, some most promising 2-year-olds and yearlings and some of the most superb calves anyone could wish to see. Mr. Mulick is not needing money, consequently I had to put up handsomely to secure these cattle. I do not hope to make money out of them, but it is my business to furnish good cattle to customers from San Diego to Mt. Shasta, so I will offer them in my sale December 12, believing high quality will be appreciated.

A careful perusal of the pages of my catalogue will convince you that this is not a sale of culls, but some splendid sons and daughters, grandsons and granddaughters of animals famous in the history of the breed. Cows with official records, cows now on semi-official test, sons and daughters of A. R. O. sires and dams, heifers bred to one of the best bred bulls on the Pacific coast, who was imported from New York at a very high price, bulls of all ages bred in the purple and calves that will be a credit to any herd. Descendants of the world's greatest milk and butter producers will be offered and sold at bidder's prices. A study of their pedigrees will convince you that within their veins flows the greatest blood of the breed, the blood that has produced world's champions. This sale offers an opportunity to the breeders and dairymen to secure good seed that will go far toward the improvement of their herds, the kind that breed on and on transmitting to their descendants supreme excellence, type, constitution and vigor with great milk and butter production.

I will present an offering that will be a credit to the breed and I believe the greatest sale of its kind ever held on the Pacific coast; an offering that will justify every lover of Holstein cattle to go several hundred miles to see.

GEORGE A. SMITH,
Corcoran, Cal.

AT THE OREGON FAIR.

Seven herds of Chester Whites made a fine showing for the breed. C. W. West carried off three of the championships and both grand championships, while Ed. Schoel took down the senior sow championships.

Hampshires were represented by only three herds, but the quality of stock shown was very commendable. J. M. Fruitts had his herd in their usual excellent condition, but met strong competition in the Montana herd owned by W. O. Bohart. Fruitts had a shade the best on firsts and championships, missing only the senior and grand champion boar that went to Bohart.

Attendance at the fair seemed to be a little lighter than last year, which was accounted for to a large extent by rain on three days.

Cheap Water and plenty of it at

Dairyland FARMS

The question of an abundant supply of water is answered fully at DAIRYLAND. No guess about it—no speculation—no doubt as to the amount. IT IS THERE ABSOLUTELY. Go and see the farms of settlers—ask these farmers to start up their irrigating plants or uncup their artesian wells. LET THE WATER SPEAK FOR ITSELF.

And the abundant water supply means green feed at little cost for the dairyman and hog raiser.



Read what M. M. Dyer, a Dairyland Farmer, says:

"I have been a farmer for many years. For some time past I served as foreman on big ranches in Kings County. I bought a Dairyland Farm because I wanted to have a farm of my own and I bought here only after looking over the San Joaquin Valley and studying soil, water and climatic conditions. I would not sell my farm for less than twice what I paid for it, as I have demonstrated what it will produce, particularly in forage crops, and proved it in five months."

Here is a picture of Mr. Dyer in his field of Milo Maize. Planted July 5th, picture taken October 9th. In twelve weeks the stalks grew ten feet high. They are well set with big, full-bodied heads.

Ten Years to Pay

Let the Crops do it

Prices About \$100 an Acre



Send the coupon—let us tell you more about the soil, water, climate and transportation facilities at Dairyland.

Cut Out.
Mail Today.

Stine & Kendrick, 23 Montgomery St., San Francisco
Gentlemen: Please send (without obligation to me) descriptive and illustrated literature on "Dairyland Farms." I am interested in the crops as checked below (X) and would like your special Bulletin on the subject.

Alfalfa	Melons	Figs
Dairying	Sweet Potatoes	Grapes
Hogs	Tomatoes	Peaches

Name _____

Town _____ State _____

Send me price and terms on _____ acres. LSDJ

STINE & KENDRICK
23 MONTGOMERY ST. SAN FRANCISCO

THE SILVER LINING

This is the machine age. The type-writer ousts the pen in history-writing, so swiftly do events crowd upon each other. Authentic news from the bat-

tlefields is so conflicting that one cannot form an accurate opinion of the possible outcome of this mighty conflict of nations. We do know, however, that the decisive points have not been reached. We cannot in any measure appreciate the suffering and poverty being wrought by the war, but we do see in this country the curious effect it has upon the national consciousness.

A national state of mind is a peculiar and interesting thing. The war cloud's silver lining seems brighter for Americans as time passes, though everyone regrets that as much cannot be said for our brothers in battle.

Newspapers, trade and farm papers, associations and all other forms of business "awakeners" are vying with each other in their efforts to create new and better business conditions in America.

The "balance of power" in this country lies with the American farmer. We are only waking up to the fact that whatever caused the war, it has increased the total sum to be received for this year's crops by an amount variously estimated at from three hundred million to half a billion dollars.

By a combination of facts (1) the surplus of grain available here, and (2) the need for that surplus, made necessary in part by short crops abroad and by the curtailment of peaceful pursuits, the American land-worker is the most fortunate, financially, of all people on earth today.

It is conservatively estimated that the grain available for export, and for which there is bound to be an urgent and continued demand, will put three hundred and thirty million dollars more into the farm pocketbook than if there had been no war. Movements of grain are increasing, the sea-lanes are not closed and the British government has virtually assured the passage of cargoes, even though contraband of war.

It is true that some of this export advantage is offset because of lessened demand for cotton, but there are already forces at work to make us realize that this country can use a great part of the raw cotton at home and take the manufacturing profit therefrom, as well as providing work for the mill people of the Eastern states, all of which puts more money into circulation and increases the consumption of farm products in this country.

The resting dollar rusts, and this is the opportune time to prepare for increased production, to meet the undoubted demand there is and will be for several years at good prices for all food-stuffs and clothing materials that can be turned out.

More strongly are we coming to believe that business depression is partly a state of mind and that in the world-wide upheaval the United States is on top, holding the purse strings of the world. We know the sea commerce of the world is not going to be wiped out and food-stuffs pile up at shipping ports of this country while people of Europe starve for want of bread and meat. An army "fights on its stomach" and some of the European nations will

see to it that they get supplies. That is insurance of a market, and of staple prices for now and later. The export tonnage is growing weekly, and regardless of whether England or Germany controls the seas, the people of both nations must eat. England, France and Germany are not poor in credit.

Furthermore, England, and through her France, will get her supplies from the nearest source, thereby lessening any chance of confiscation. She gets her foodstuffs from India, Russia, Argentina, Australia and North America. All of these, except North America, are from six to ten thousand miles away from her. We are less than half as far away from England as any of her other sources of supply. It is plain, therefore, that with small stocks in other countries, and our being three thousand miles nearer, who will get the business.

We have thus far considered only possible 1914 and 1915 prices of cereals. One should not lose sight of the fact that if foodstuffs can be protected in transit, safe passage of many horses and mules needed is also insured. Indiana and Iowa firms have within the past few weeks received European orders for 25,000 horses and mules. This should have some effect upon prices of work animals here. Added to this, many horses are being destroyed, which will have its effect on prices of horses abroad now and for several years to come, because the breeding centers of Belgium, Germany, etc., are being stripped of their horses.

Again, meats of all kinds in greater amounts will be needed. For the past week good beef steers have sold at 9c to 11c, while hogs go at from 8c to 9.5c per lb. A man well up in the trade said the other day that if the supply of "feeders" does not increase largely he would not be surprised to see 15c cattle within the next eighteen months. Stockmen are reporting that beef feeders find it increasingly hard to make any money with corn at present prices. Here is where the man growing his own feed for his cattle can increase his margin of profit by cutting the cost of producing the feed, for every cent cut from the cost of producing means that much more profit on the live stock.

Timely and deep plowing, to make a seed bed that will insure moisture and release plant food, can be better done with power machines than any other way, and particularly so now when horses will be higher in price. With ample power there is no limit to the pulverizing of the soil into such shape as to make plant food available, and to work the manure well into the ground when plowing. It costs no more to disc and roll a piece of ground when plowing with a good tractor than to neglect that important feature, whereas with teams and men the ground must be gone over once for each operation.

With horses it is not possible always to pick the most favorable time to do these several operations at one time with many acres, even if enough power were available, which it is not. With a tractor, however, one doesn't need to drag out his plowing over many weeks. If he wishes to plant some crop to turn under as humus instead of letting the land lie bare, or to work in thoroughly the manures already scattered, he can pick a few days when the soil is mellow and the weather good, hook up his gang plow of five to ten bottoms, followed with a pulverizer, harrow, etc., and every round he makes is a finished job, from ten to twenty-five acres per day, according to the number of plows pulled. Business farming, we call it.

Just here it might be mentioned that the farmer looking for a "steel horse" would do well to steer clear of the so-called tractors that have entered the market in great numbers, and give his very careful consideration to the very few really successful tractors, whose makers have put into them all their past years of experience in building farm machinery, whose customers have tested these machines by the thousand in nearly every state, and who are prepared to back up their sales with service as long as the machines are used, because they know a satisfied customer is the best advertisement. A strong proof of this is that one of these reliable concerns (and let us repeat that there are only a few makers of machines on the market that can be universally depended upon for profitable performance under all conditions) has placed 45 of its machines in one Texas county during the past two years, and now finds

that it has only begun to supply the real need there.

We cannot too clearly understand that an urgent demand from foreign countries usually means higher prices here. Neither can we over-emphasize that the farmer who will supply the "sinews of war" will reap his harvest by increasing his yield in every possible manner consistent with good business judgment.

To plow the acres needed for next year properly will take many weeks with horses and single plows, but with dependable tractors all the ground needed can be quickly gotten into shape, at lessened cost per acre, giving insurance of stored up moisture from the winter rains and snows against the dry times of next spring and summer. This of course means fall plowing. For spring work the power machine gets it done quickly when many other things are pushing for attention. Furthermore, the tractor not only does not eat when not working, but it can be utilized on the average farm week in and week out throughout the year for many other power jobs, its storage place is many times smaller, and the attention demanded much less, than for horses necessary to do as much work.

It has already been pointed out by many people who profit by experience that those farmers suffering least from drought this past summer were those who plowed deep and early, and thereby stored up moisture in the soil.

From now on we can expect to see the American producer buried under an avalanche of advice as to whether to hold his products or sell. At the risk of adding to this mass of "war talk," much of it useless and confusing, we want to point out, primarily that there are 90,000,000 of us at home to be fed, that the export of food-stuffs will probably go on in good measure, and finally, that the most profit usually lies in turning over one's capital as often as possible at a reasonable margin rather than gambling on excessively high prices.

To sum up, then we note the following:

1. A very large increase in crop returns from this year's product, due to higher prices and sure demand.
2. A real need and safe delivery of practically all the surplus we can raise, in grains as well in live stock.
3. Possible higher prices for work animals on the farm.
4. Possible higher prices for farm labor, due to greater manufacturing activity in this country.
5. More profit for the farmer who cuts his cost of production by insuring himself against drought, who uses ample power to plow deep and at the right time, and who utilizes all his feed to turn out more meat animals at less cost.
6. The best business tactics are in pressing hardest for volume where conditions are healthiest—th's country can profitably use its capital at home.

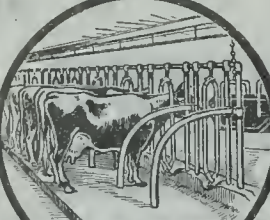
City folks may have to dig deeper into their pockets to pay living expenses, but the farmer has more nearly come into his own. Now will he be the greatest producer of wealth, and in just the measure that he utilizes every aid he can get for the biggest production at lower cost. He has the operating capital, either in cash or this year's crop yields in his granaries; prices are likely to hold up to a reasonable level, and his profit on future operations depends in a great measure on his cost of production and quick turnovers at a reasonable and safe margin.

KIMBALL SELLS A FINE LOT OF HOLSTEINS.

The Live Stock and Dairy Journal: Last week W. H. Ginn & Son, Corcoran, purchased seven registered Holsteins of me. These animals are splendidly bred and fine individuals. Josie de Kol 4th 98771 has a record of 17.18 butter for seven days at 2 years and 1 month; Monona Pauline Surprise 100218 also has an A. R. O. record; Josie de Kol Fobes Tritomia is a fine heifer. Her sire, Fobes Tritomia Mutual de Kol, has twenty-three A. R. O. daughters, one, Jessie Fobes Bessie Homestead, holding the world's record at 4 years. The dam of this heifer has a splendid A. R. O. record at 2 years. Two of the other heifers won prizes at the Kings county fair in 1912, one winning grand championship. These cows purchased by Mr. Ginn all have excellent A. R. O. backing and will be a great addition to his fine herd of Holsteins.

ROBERT KIMBLE,

LOUDEN



STALLS and STANCHIONS

The Clean-Cut Simplicity of Louden Stalls and Stanchions in design and construction; their absolute freedom from dirt-gathering cracks, crevices, corners or attachments, make them the only really sanitary barn equipment. The Superior Flexibility of the Louden Stanchion permits the cow to lie down or rise without the dangerous straining common to the more rigid type. The Louden Stanchion (all steel or wood-lined) is an absolutely safe and comfortable stanchion.

Louden Stalls and Stanchions are built of the finest, high-carbon tubular steel and are exceptionally strong, easily installed and cost no more than wood.

We also manufacture Feed and Litter Carriers, Spring-balanced Mangers and Manger Partitions, Bird-proof Barn Door Hangers, Hay Tools, Power Hoists, Calf, Bull, Cow and Pig Pens, Window Ventilators, Etc.

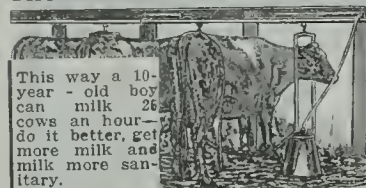
Write us for Free Illustrated Catalogs, or see your dealer. We can be of service to you in planning your new barn. Our barn experts will give you FREE sketches and suggestions that will be of value. Write us.

LOUDEN MACHINERY CO.

(Established 1867) 121 Briggs Ave. (113) Fairfield Iowa

Comfort for the Cow

The HINMAN Milker Way



This way a 10-year-old boy can milk 26 cows an hour—do it better, get more milk and milk more sanitary.

The HINMAN Milker is Noiseless

light, easily cleaned, no vacuum in pail, no piping—just a simple drive rod; only two moving parts. Pays 150 per cent on investment. Milks 110,000 cows morning and night. Write for free booklet before you turn page.

HINMAN MILKING MACHINE CO., 34-44 Elizabeth St., Oneida, N. Y.

Get this Valuable Free Book on Stock Feeding

It contains vital information and statistics on scientific feeding, and acquaints you with the high nutritive value and economy of

Cottonseed Meal

which, according to government records, contains a greater percentage of feed units than any other stock feed, and at much lower cost per feed unit. Corn meal or wheat bran costs 6½c per feed unit, while Cottonseed Meal costs only 3c per feed unit.

Your stock—horses, mules, cows, pigs, sheep, poultry—will thrive better and cost about half as much for feed with Cottonseed Meal. But get the Book and read all about it. Write for it now before you forget.

Imperial Valley Oil & Cotton Co. Mfrs.

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DAIRY CATTLE FEATURE OF THE WASHINGTON STATE FAIR

Following the Washington State Fair of 1913, Maldeta Canary Mercedes 147488, a Holstein-Friesian cow owned by H. C. Davis of Granger, which won first prize, champion and grand champion in that class, was purchased by E. B. Marks of North Yakima for \$1,800. She fully justified her new owner's confidence, for at the State Fair of 1914 she won the first prize in the aged cow class in the milking contest with a milking to spare and with a 48-hour record of 6.11 pounds butterfat, claimed by her owner to be the best ever made in a fair grounds test in the United States. At the close of the State Fair of 1914, Cascade Marie 192426, a two-year-old Holstein, owned by William Todd & Sons of North Yakima, which took first prize in her class in the milking contest, was purchased by William Bishop of Chinacum, one of the best known Holstein breeders of the Northwest, for \$1,500. Cascade Marie is a product of William Todd's own breeding, and thus does the importance of the State of Washington and of the Yakima Valley in particular as a Holstein center continue to be demonstrated. Cascade Marie comes of the Johanna line on both sides, being sired by Sir Johanna Ruth's Fayne and dammed by Bessie de Pauline II. Her record at the fair grounds was 4.72 pounds butterfat, considerably better than that of the winner in the three-year-old class and was above the average for two-year-olds.

Interesting features of the Washington fair this year were the remarkable advance in the size and quality of live stock displays in all divisions, notably the Holstein and Jersey classes of the dairy division, the walk-away in the milking contest referred to above and the notable increase in the amount of production of winners in the milking contest over those of winners last year, all tending to show a lively increase in dairy interests within the State.

Every live stock division at the fair except horsea was crowded to capacity. There were fully 400 head of swine on the grounds, the shed capacity having to be increased by half. Entries in sheep from both Oregon and Washington crowded that barn full. Beef cattle entries filled as never before in the history of the fair, and dairy cattle occupied two entire barns. The Jersey class showed the largest increase. There were 85 head on the grounds, a 35 per cent gain over last year, and their quality attracted wide attention. More than 100 Holsteins were shown, the display eclipsing that of even the Oregon State Fair of last year, in the opinion of experts.

The butterfat record of the winner in the aged cow class in the milking contest was 1.57 pounds better for the 48 hours than that of the winner last year, while that of the winner in the two-year-old class was 1.21 pounds better than last year.

William Bishop took the Northern Pacific railroad special \$50 silver cup for the best cow of any age or breed on the grounds, with his Chinacum Wayne Boone.

C. A. Nelson of Waverly, Ia., placed the ribbons as follows on Holsteins and Jerseys:

Holstein-Friesians.

Bull, 3 years old and over—First, Mutual Fobes Longfield de Kol 82959, E. B. Marks; second, Annie de Kol Lakeside Model 64630, H. C. Davis; third, Sir Johanna Shadeland de Kol 64066, W. W. Butler.

Bull, 2 years old and under 3—First, Moxee Sir Johanna Fayne 101066, Joseph Tyson; second, North Star Korndyke Sir Beets 91324, William Bishop; third, Lady Violet Fayne, William Todd.

Bull, senior yearling—First, Bull Moose Cornucopia, William Bishop.

Bull, junior yearling—First, Mutual Lad Tritomia 11231, H. C. Davis; second, Sir Chinacum Wayne Boone 116604, William Bishop.

Bull, senior calf—First, E. B. Marks; second, C. S. Meade; third, Hollywood Palmyra Ormsbee 130480, W. W. Butler. Bull, junior calf—First, H. C. Davis; second, S. J. Simonson; third, E. B. Marks.

Cow, 4 years old and over—First, Sweet Marie Ormsbee 133186, E. B. Marks; second, Maldeta Canary Mercedes 147448, E. B. Marks; third, Miss Korndyke Mercedes 121423, E. B. Marks. Cow, 3 years or over—First, Astra Mercedes Flota 362601, E. B. Marks; second, Jewel Queen 192826, E. B. Marks.

Heifer, 2 years old and under 3—First, Model Bonnie Echo 171035, H. C. Davis; second, Cascade Marie, Wm. Todd & Sons; third, Quirinus Lassie 205721, E. B. Marks.

Heifer, senior yearling—First, Pauline Ophelia 206447, E. B. Marks; second,

Tritomia Beauty 206448, E. B. Marks; third, Cascade Barbara, Wm. Todd & Sons.

Heifer, junior yearling—First and second, H. C. Davis on Pontiac heifers; third, North Star Posh Julia Beets 24483, Wm. Bishop.

Heifer, senior calf—First and second, E. B. Marks; third, Violet Fayne Petergrie 232826, Wm. Bishop.

Heifer, junior calf—First, H. C. Davis on a Model heifer; second, Cascade Blossom, Wm. Todd & Sons; third, Cornucopia Johanna de Kol, Joseph Tyson.

Senior champion bull—Mutual Fobes Longfield de Kol 82959, E. B. Marks.

Junior champion bull—Entry of E. B. Marks.

Senior champion cow—Sweet Marie Ormsbee 133186, E. B. Marks.

Junior champion cow—H. C. Davis on a Pontiac heifer.

Grand champion bull—Mutual Fobes Longfield de Kol 82959; E. B. Marks.

Grand champion female—Sweet Marie Ormsbee 133186, E. B. Marks.

Best aged herd—E. B. Marks, first; H. C. Davis, second; Wm. Bishop, third.

Best young herd—H. C. Davis, first; E. B. Marks, second; Wm. Bishop, third.

Best calf herd—E. B. Marks, first; H. C. Davis, second; E. B. Marks, third.

Best four animals, get of sire—First, E. B. Marks on get of Mutual Fobes Longfield de Kol 82959; second, H. C. Davis on get of King of Pontiac's Small Hopes; third, Wm. Bishop on get of Sir Beets Cornucopia Netherland 28460.

Best two animals, produce of cow—First, Wm. Bishop on produce of Julia Cornucopia Posh 116330; second, E. B. Marks on produce of Edna Beauty 143299; third, Wm. Todd & Sons on produce of Bessie de Pauline II.

Jerseys.

Bull, 3 years old or over—First, Dulcet's King Brewer; second, Gertie's Brown Lad 67362, Burt L. Pease.

Bull, 2 years old and under 3—First, Morocco's Pioneer, T. S. Griffith; second, Mermaid's Sultana's Lad 114737, J. B. Early; third, Lass's Virgie Lad, W. H. Cleveland.

Bull, senior yearling—First, Eminent's Oxford's Majesty, E. L. Brewer; second, Cowslip's Oxford 109667, Burt L. Pease.

Bull, junior yearling—First, Glen Tana Squire, T. S. Griffith; second, Rosaire's Oxford 116762, Burt L. Pease; third, Grosnez's Golden Prince 120029, G. C. Chapman.

Bull, senior calf—First, Dimple's Oxford, T. S. Griffith; second, Brown Lad's Diploma 124542, Burt L. Pease; third, no award.

Bull, junior calf—First, Oxford's Lad's Eminent Beauty, J. B. Early; second, Washington State College; third, Glen Tana Fancy's Son, T. S. Griffith.

Cow, 4 years old and over—First, Olympia's Fern, E. L. Brewer; second, Mohican's 38, E. L. Brewer; third, Pol-lux's Maid of Athens, T. S. Griffith.

Cow, 3 years old and under 4—First, Western King's Pet, T. S. Griffith; second, Brigadier Lad's Maid, T. S. Griffith; third, Baby Buff's Filpail 267405, Burt L. Pease.

Heifer, 2 years old and under 3—First, Miss Muriel Olga of M. L. P. 271817, Burt L. Pease; second, Fern's Beautiful Doll 294843, Guy Chapman; third, Raleigh's Nifty, J. B. Early.

Heifer, senior yearling—First, Rosaire's Olga Malden 285798, Burt L. Pease; second, Brown Lad's Lady 285800, Burt L. Pease; third, Gertie's Madelina, W. H. Cleveland.

Heifer, junior yearling—First, Lissa's Success, E. L. Brewer; second, Washington State College; third, Airy's Poppy, T. S. Griffith.

Heifer, senior calf—First, Bonnie Albert 315143, Burt L. Pease; second, Baby Buff's Adelaide 315144, Burt L. Pease; third, Glen Tana Frances.

Heifer, junior calf—First, Washington State College; second, J. E. Early on Sultana's Empress Lassie; third, W. H. Cleveland.

Senior champion bull—Morocco's Pioneer, T. S. Griffith.

Junior champion bull—Glen Tana Squire, T. S. Griffith.

Senior champion cow—Olympia Fern, E. L. Brewer.

Junior champion cow—Lyssa's Success, E. L. Brewer.

Grand champion bull—Morocco's Pioneer, T. S. Griffith.

Grand champion cow—Olympia Fern, E. L. Brewer.

Best aged herd—First, E. L. Brewer; second, T. S. Griffith; third, Burt L. Pease.

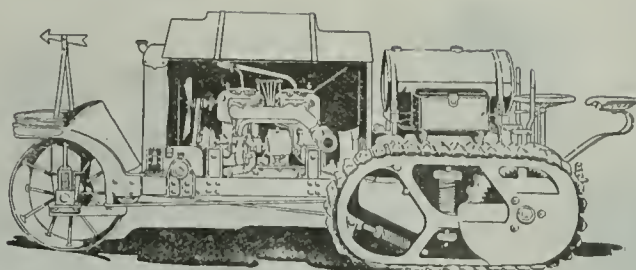
Best young herd—First, T. S. Griffith; second, Burt L. Pease; third, E. L. Brewer.

Best calf herd—First, Burt L. Pease; second, E. L. Brewer; third, J. B. Early.

Get of sire—First, Guy Chapman on get of Fern's Prize 63733; second, Burt Pease on get of Gertie's Brown Lad 67362; third, T. S. Griffith on get of Glen Tana King.

Produce of cow—First, W. H. Cleveland on produce of Madelina Marigold; second, Burt L. Pease on produce of Poppy's Maiden; third, Guy L. Chapman on produce of Lady Eminent's Reminder 230335.

The awards in the 48-hour milking contests were as follows:



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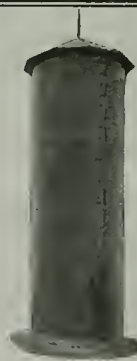
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IRRIGATION IS WORKING WONDERS IN MERCED COUNTY, CALIFORNIA.

Land that only a few years ago was cattle range is now producing such crops as are shown in the pictures. These were all taken on Dairyland Farms, a part of the old Chowchilla Ranch. At left, a 6-inch pump hitched to a 12 h. p. engine throwing 800 gallons of water per minute from an 18-foot water level. Second from left, an 11-weeks-old crop of German Millet, producing six tons to the acre. Second from right, top, a 12-weeks-old crop of Indian Corn standing 14 feet high. In the row next to it a crop of Pumpkins is growing, and next to the Pumpkins a crop of Milo Maize. Picture insert, one of the good dairy herds on Dairyland Farms. At right, a crop of Milo Maize that was planted on July 5th. The picture was taken on October 9th.

The awards in the 48-hour milking contests were as follows:

Heifers 2 years old and under 3—Cascade Marie, owned by Wm. Todd & Sons, first with 140.9 total milk; 3.35 average test; 4.720 total butterfat; \$0.352 value milk; \$1.416 value butterfat; \$1.768 total value; Cascade Lizzie, owned by Wm. Todd & Sons, second, with \$1.66 total value; Bonnie de Kol, owned by H. C. Davis, third with \$1.452; Model Abbecker Rose, owned by E. B. Marks, fourth with \$1.134.

Cows 3 years old and under 4—Miss Edna Segis, owned by E. B. Marks first with 123.2 total milk; 3.26 average test; 4.016 total butterfat; \$0.30 value milk; \$1.204 value butterfat; \$1.512 total value; Jewel Queen, owned by E. B. Marks, second with \$1.285 total value.

Cows 4 years old and over—Maldeta Canary Mercedes, owned by E. B. Marks, first with 133.8 total milk; 4.7 average test; 6.110 total butterfat; \$0.334 value milk; \$1.833 value butterfat; \$2.167 total value; Fairview Homestead Burke, owned by Joseph Tyson, second with \$1.664 total value; Jacoba's Choicest Mercedes, owned by W. M. Neison, third with \$1.518.

FRESNO COUNTY LIVE STOCK SHOW

The live stock show at the 1914 Fresno County Fair, California, presented a somewhat different appearance than in former years, and was especially strong in the dairy cattle classes. The presence of a herd from A. W. Morris & Sons Corporation's herd at Woodland strengthened the Holstein show, and with some good ones from the herd of H. E. Vogel made the best showing of black and whites that Fresno has yet had.

The Jersey classes were well filled. N. M. Locke Co. making their usual good show, while C. G. McFarland of Tulare had an especially strong showing.

The hog classes were made conspicuous by the presence of good representation from the Poland China herd of M. Bassett, Hanford.

Exhibits of draft horses were not as heavy as we have seen at Fresno. Black Hawk Ranch showed some excellent Shires and provided the feature of the show.

The Fresno fair management has made some extensive improvements in the way of buildings and arrangement of grounds, and exhibitors had the advantage of very good attendance, which is characteristic of the Fresno fair.

GLADYS 11th PROLIFIC.

J. K. Fraser, Denair, Cal., has a brood sow in his herd of registered Duroc-Jersey swine that is one of the most prolific we have noted in some time. In 13 months she has farrowed 41 pigs in three litters. On September 13, 1913, she farrowed 14 pigs, on the 27th of March, 1914, she farrowed 16 and on October 20, 1914, she farrowed 11. Sows like this are valuable breeders and her offspring will make good breeding stock.

A NEW WORLD CHAMPION.

There is little doubt, as the Journal goes to press, that Tillie Alcartra, the Holstein-Friesian cow owned by A. W. Morris & Sons Corporation, Woodland, California, will come up to expectations and break the world's record for milk production in one year by a very wide margin. The present record is 29,519.4 pounds and is held by an eastern cow, Creamelle Vale.

Up to the evening of October 22, that being the three hundred and forty-third day of her test, Tillie Alcartra had produced 23,997.7 pounds of milk. She still has 22 full days to go and estimating on her present production and her past performances in holding up at the end of her lactation period she will finish the year with about 30,450 pounds of milk, or a clear margin of nearly 900 pounds over Creamelle Vale's record. She will not break the butter record, but will go high enough to place her as either the sixth or seventh highest producing butter cow of the Holstein breed. Up to October 22 she had produced 902.44 pounds butter fat and estimating on her probable flow of milk for the remaining 22 days of test she should finish with about 948.9 pounds of butter fat, equal to 1,186 pounds of butter.

She will bring to the Morris herd the distinction of developing the first cow in the world that has produced over 30,000 pounds of milk in one year, and will set the standard for the entire Holstein breed upon a substantially higher level.

STOCK SHOW AT HANFORD.

The Kings County Fair, California, this year brought out a well-balanced live stock exhibit in practically all classes except beef cattle. The dairy cattle show was by far the best yet seen at this fair, both in quality and numbers. C. G. McFarland, N. H. Locke Co. and R. L. Waltz provided Jersey exhibits between which competition was keen.

The Holstein classes were of high excellence, due in part to the presence of cattle from the herd of A. W. Morris & Sons Corporation, Woodland. G. J. Clark had some good specimens of his herd on exhibition. There was one herd of Guernseys exhibited and these were of very good quality.

The swine show was the best Hanford has yet had. The Poland China show alone was worth going a long way to see. The herds of M. Bassett, A. L. Bassett, W. Bernstein and W. Trewhitt made a show that was not surpassed at the State Fair.

We have seen a better draft horse show at Hanford, but the good feature about this year's show was the excellent showing made by horses owned in Kings County. The jack show was, as usual, one of the features of the fair.

Weather during the week was favorable and attendance good.

SUCCESSFUL JERSEY SALE.

The dispersal sale of Fisk Jerseys held at Modesto, Cal., on October 14, may be considered as highly successful. No catalogues were issued and this undoubtedly tended to lower the average price, as there was some blood sold that would have brought higher prices if bidders had had an opportunity to study pedigrees. The highest price for a female was paid for the cow, Foxy's Cleata, that sold for an even \$300 to J. J. De La Meter. The top price for bulls was brought by Wieland's Silver Marquis, that sold for \$500 to M. H. Merrill. Of the 34 head sold the cows averaged \$220, heifers \$168.35, heifer calves \$86.65 and bulls \$161.49. The sale was ably conducted by Col. Ben A. Rhoades of Los Angeles.

ARALIA DE KOL IS DEAD.

The wonderful old Holstein-Friesian cow, Aralia De Kol, formerly owned by A. W. Morris & Sons Corporation, died in October after having dropped a fine heifer calf. This grand old cow was the first in the world to produce over 28,000 pounds of milk in one year, making her record when she was 12½ years old. She was a cow of extraordinary ruggedness and persistency in production, and has left behind her in the Morris herd a family of sons and daughters that will carry her productive blood into wide areas.

We have our eye on a young dairyman who is operating with limited capital. He has only a grade herd like most dairymen, but he paid \$600 for a herd bull. That young dairyman is going to succeed. Not because he paid \$600 for a bull, but because he went out after the blood that produces butter fat. His bull has two 30-pound cows close up and price was the second consideration.

How many boarders are you going to keep this year? Better get a Babcock tester, if you can not join a cow testing association. It will probably show that a few members of your herd are ripe for the butcher.

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Discounts: 250 doses, 10 p. ct.; 500 doses, 20 p. ct. Use any injector, but Cutter's simplest and strongest. Every package dated, unused pills exchangeable for fresh after date on package. Do not use old vaccine (ours or any other), as it affords less protection than fresh. Insist on Cutter's. If unobtainable, order direct. Send check or M. O., we pay charges and ship promptly. THE CUTTER LABORATORY, Berkeley, California.

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THE SWINE HERD

The Selection and Care of the Herd Sire

By H. G. Armstrong.

To claim that success in the hog business depends upon the proper selection of the boar, may not be wholly correct, but many failures in the business are certainly due to the sire.

No matter how good the matrons of the herd may be, if the sire is poor and inferior the resulting stock is very liable to be poor. But if the boar is what he should be the pigs will be good, even though the sows are rather inferior in quality. Those familiar with the principles of breeding know that the male, if more prepotent than the sows, will sire pigs which resemble him very closely in outward appearance. If this then be true, we can easily see how much depends on the proper selection of the sire. There is an old saying that the sire is half the herd. He is more than half. He is half of the first generation, three-fourths of the second, seven-eighths of the third and so on. If this is carried on indefinitely the character of the herd is fixed by the sire alone.

In selecting the sire always, if possible, take the older boar rather than the one three or four months old, even though he cost more, as he will, for oftentimes the young pig does not grow as well as his appearance would lead us to believe. If possible, when making your selection, see the herd from which he comes. If the herd is uniform in type and quality, and he is a good feeder, then the boar should be a good breeder. By all means he should be chosen with reference to the sows he is to be used on. If the sows are deficient in any one respect, then select the boar that is strong there.

He should in all cases be pure bred, of whatever breed you most prefer. Under no circumstances use a boar of mixed breeding, for this is a step backward, rather than forward. If a Berk-

will tend to fatten him, which, of course, may produce lowered vitality and prepotency. Give him, instead, a small lot, an acre or so will do, seeded if possible to alfalfa or some other pasture, with his sleeping quarters in one end and his feed trough in the other. This will give him his needed exercise. Do not turn him out to range at large with other stock, where gilts and sows are running. He will fight the stock, maybe ruining himself as a breeder, and he will worry and fret until he will soon look little like the individual you first bought. He will also become breechy and hard to handle, and in some cases almost dangerous. Close confinement is better than the above method, for he can be taken out and exercised regularly.

Keep him in his own lot and when his services are needed bring the sow or gilt to him. Let him serve her once, for once is as good as a dozen times, then remove the sow to a quiet place away from other stock. One service a day is enough for a mature boar, though in the busy season he may be used twice a day, provided, of course, he is properly fed. This brings us to the feeding question.

The boar should always be in good, thrifty condition, neither too fat nor too lean. We, as a rule in our own herd, like to keep our herd sires in such condition that, if they were barrows they would make good pork. Dry feed alone, usually in the form of grain, will not put or keep him in the best possible condition, any more than will a weak slop. In general we feed our sires much the same as we do our sows, with a few minor exceptions. If the boar is young and growing he should be fed enough protein for this purpose. If he is mature only enough protein is needed for maintenance. The rest of his feed may be composed of cheaper feeds, with more bulk to it. When in active service, however, we like to feed more protein than the maintenance ration, as this tends to stimulate the glands. We also feed more carbohydrates, as this is needed, for more energy is expended by a boar in service. This method of feeding, in our own case, we believe responsible for our large litters, eight pigs or better being the average for young sows and gilts, sired by a young boar just coming into active service and in the condition we have mentioned above.

If the same person handles the boar all the time and his quarters are isolated from other stock you will find that he will usually be quiet and gentle. More depends on the treatment you give him than on his natural disposition as to whether he is docile or not. Do not allow strangers to annoy him. We never bother our own sires so that when we speak to them they usually know that we want to use them, and oftentimes they will follow us by calling. It is a good practice, however, to keep the tusks cut off, so that the chances of getting injured are materially reduced.

Another subject that we might mention at this time is the age at which a boar should be put into active service. Opinions vary some on this subject. We have known people who have bought boar pigs from us to start using them as early as six months. This is too young and will invariably stunt them, and may even ruin them as breeders. Immature sires generally do not get so large and healthy litters as do mature ones. In some exceptional cases a boar might be used at eight months and then only sparingly. In our estimation a year old is soon enough. Then he should be used only moderately. A boar is most valuable as a breeder when from two to five years old. If handled as we have suggested he will be little if any harder to manage at five than he is at one year. Invariably the aged sire produces the best litters. Most sires, however, are not kept that long, being disposed of long before they have proven themselves good breeders.

The dairy cows need some shelter in the rainy weather of winter, even if it is no more than a roof and something to break the wind.



BIG FOUR.

Reserve Champion Berkshire Boar at Oregon State Fair and Spokane Interstate Fair, 1914.

shire cross is preferred then use a Berkshire boar of known ancestry. The same thing applies to the Polands, or any other breed that you might prefer.

Among some of the characteristics that he should have the following might be mentioned: A good head with round, heavy under jaw; a thick, short neck which indicates vitality; a large heart girth with plenty of room for large lungs, and width between the forelegs; ribs should be well sprung, with good stomach capacity. The skin should be soft and elastic, covered with soft hair. He should stand on good feet, with small joints. Above all he should have plenty of masculinity so that if you should see his head through a fence you would not mistake him for a sow. Such a boar cannot help but put his stamp on his progeny, and he will be cheap at almost any price. Prices of such stock will vary a little in different localities, also some according to breed, but buy him anyway.

Next to the selection of the sire is his care afterwards. The mere fact that you have bought a good individual at perhaps a good price does not mean that when you get him home you can secure desirable results from him if given indifferent treatment. If he was worth buying in the first place he is worth all the care and attention he should have afterwards. As mentioned before success in the hog business depends a great deal on the sire, and the success you have with a good sire depends entirely on his care and feed.

Do not shut the boar up in close, cramped quarters, where he can receive very little or, perhaps, no exercise. This

IOWANA FARMS

BREEDERS OF REGISTERED STOCK ONLY

Holsteins with the TYPE, CONFORMATION, CAPACITY, BREEDING and A. R. O. backing to make them producers. INDIVIDUALITY and PERFORMANCE, as well as breeding, constitute our basis of judgment of animals. Not only must they be bred in producing lines, but they must be producers themselves, having the capacity for work, and the vigor, and strength, and constitution which go to make them business animals.
Herd Sires—SIR JOHANNA FAYNE (No. 42147), and OAK DE KOL OLLIE HOMESTEAD (No. 85529).

Berkshires ONE HUNDRED choice sows, bred to the following boars, have farrowed pigs during the months of March, April and May. These sires are of outstanding merit as individuals, and represents the very best in Berkshire blood lines:
Rival's Iowa Baron (172535), Baron Premier 102d (172300), Masterpiece Rival 2d (137725), Ames' Rival 36th (176400), Double Champion (168700), Rival's Iowa Baron 2d (172536), Artful Belle's Rival 3d (133678).

The sows are equal in breeding and quality to the boars, and these matings have brought pigs that are the best in Berkshire type and characteristics.
Write us for Holsteins and Berkshires, or, better come and see us.

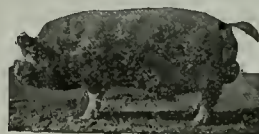
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Junior Champion Boar on Royal Lee 25th.
Senior Champion Sow on Master's Lady Premier 5th.
Junior and Grand Champion Sow on Silbirfa Duchess 15th.

If you want the blood of the Champions write **WINONA RANCH, R1 GRANTS PASS ORE.**



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I have on hand a limited number of young Berkshire boars, a few gilts, and some young pigs of both sexes. These are especially choice and of good breeding. Some are sired by RIVAL'S CRU-SADER and LORD DUKE, and one or two bred here are by KENNETT LEE JR. Order early as the supply is limited.
G. A. MURPHY, Box 300, Perkins, Cal.

HOGS

I breed registered BERKSHIRE HOGS and have for sale stock of all ages. I am in constant touch with other breeders, not only of Berkshires but of all the other principal breeds, and offer my services either as purchasing agent or judge and adviser.

Write me, whether you need one hog or a carload, describing as nearly as possible the individual or individuals that you wish.

H. T. MORGAN, Glen Ellyn, Ill.

DUROC JERSEYS Best Bred Stock Now in California

YOUNG STOCK AND SERVICE BOARS AND SOWS FOR SALE.

All Registered Purebreds, and from such sires as Wonder and Klondike. We are located in the Imperial Valley, and can supply breeding stock to all Pacific Coast Points. Write for prices and pedigrees to

MOORE BROS., El Centro, Imperial County, California.

Berkshires

Our Berkshires are the finest in the State. They are consistent show winners, and out of a possible seventeen firsts we won thirteen at the 1914 State Fair.

FIVE HERD BOARS IN SERVICE Choice stock of all ages for sale.

Guernseys

We offer for sale bull calves of A. R. breeding on both sides. Some of the younger ones are sired by DON ADONIS of LINDA VISTA, whose dam, two grand dams and two great grand dams have an average A. R. butter fat record of 714 pounds in one year.

GRAPE WILD FARM

A. B. HUMPHREY, Owner.

MAYHEWS, CAL.

Farm Located Eight Miles From Sacramento on Folsom Road.

When writing advertisers it will be appreciated by advertiser and publisher if you start your letter: "Referring to advertisement in the Live Stock and Dairy Journal."

GRATIFYING RESULTS FROM ANTI-HOG CHOLERA SERUM.

An interesting report received by the department from county agents in 16 southern states affords additional evidence of the value of anti-hog cholera serum in preventing the spread of this disease. Although many authorities do not advocate the treatment after the hog has become visibly affected this report appears to indicate that a considerable saving was effected in this way.

Briefly summarized the figures are as follows:

Resume.	
1. Number of hogs given single treatment	34,256
2. Number of hogs that were well when treated	27,226
3. Number died that were well when treated	608
4. Per cent died that were well when treated	2.22
5. Number of hogs that were sick when treated	7,040
6. Number died that were sick when treated	2,057
7. Per cent died that were sick when treated	29.21
8. Number of hogs given simultaneous treatment	7,713
9. Number of hogs that were well when treated	7,410
10. Number died that were well when treated	179
11. Per cent died that were well when treated	2.41
12. Number of hogs that were sick when treated	303
13. Number died that were sick when treated	150
14. Per cent died that were sick when treated	52.86
15. Total number of hogs treated	41,979
16. Total number of hogs died	3,004
17. Per cent of hogs died	7.16
18. Total number well when treated	34,636
19. Total number died that were well when treated	787
20. Per cent died that were well when treated	2.27

It will be noted that of 34,636 animals in good health but exposed to contagion from the disease 787 died after receiving the treatment. This is a loss of only 2.27 per cent, which is regarded as highly gratifying. Of the total number inoculated (41,979 hogs) 3,004 died, or a percentage of 7.16. It must be remembered, however, that the serum is to be regarded in the light of a preventive rather than a cure, and it is probable that many agents inoculated animals in which the disease was so far advanced that there was little hope of their being saved.

In addition to the treatment by inoculation, sanitary and other precautions are indispensable. The hogs should be fed on cooling, laxative food for a few days after receiving the treatment, and should be moved to clean, uninfected pens where there is plenty of shade. Care should also be taken to free them from lice and worms, and the following remedy for worms is suggested by the Kentucky experiment station:

Santonin	2½ grains
Areca nut	1 dram
Calomel	1 grain
Sodium carbonate	1 dram

This dose is for 100 pounds of live weight. It should be given on an empty stomach, preferably in the evening in slop, after the hogs have been without food for 12 to 24 hours. On the following morning each hog should receive a tablespoonful of Epsom salts.

SWINE SHOW AT THE AMERICAN ROYAL.

A strong swine show will be one of the features of this year's American Royal to be held at Kansas City November 15 to 21. N. H. Gentry of Sedalia, Mo., is the director in charge of the swine department, which will be under the superintendency of Prof. L. A. Weaver of Columbia, Mo. Classifications are provided for Berkshires, Poland Chinas, Duroc - Jerseys and Chester Whites. The Standard Poland China Record Association, the National Duroc-Jersey Record Association and the O. I. C. Chester White Association offer special prizes on their respective breeds, in addition to the prizes provided for in the regular classification. Swine entries must be made with T. J. Wornall, secretary of the American Royal Live Stock show, Live Stock Exchange, Kansas City, Mo., and will be received up to November 10.

STEEL BUYS LAUREL CHAMPION AT RECORD PRICE.

The sensation of the Spokane Interstate fair this fall was the purchase by F. R. Steel, Winona ranch, Grants Pass, Oregon, of the great Berkshire boar Laurel Champion from Chas. M. Talmadge, Silver Birch arm, Newport, Washington, for \$750—the highest price ever paid for a Pacific coast hog. Laurel Champion is the greatest show hog of the Northwest. He has been grand champion boar of every state fair in the Northwest and at most of the minor shows as well. Before coming West Laurel Champion was first junior yearling and reserve grand champion boar, and headed first over one year herd, first get of sire and first produce of sow at the 1912 Iowa and Minnesota state fairs. In 1913 he was first aged boar, senior and grand champion boar and headed first prize aged herd at the Spokane Interstate fair, Walla Walla and Washington state fairs. He sired the winning under six months' boar and sow pigs and the champion boar bred by exhibitor at these fairs. At the 1914 Spokane Interstate fair this boar was again made grand champion and again headed the first aged herd. A group sired by him won the get of sire class. He also sired the first prize produce of sow group, first young herd bred by exhibitor, first under year and junior champion boar, first and second under six months' boars, first and second under year sows and junior champion sow and first fat barrow. This makes eleven firsts and three championships won by Laurel Champion and his get at what is considered by the best judges to have been the greatest show of Berkshires and the hottest competition in classes of any show ever held in the Northwest. At the 1914 Oregon State fair this phenomenal boar again won the grand championship; and his daughter, Silbirla Duchess 15th, was made grand champion sow, a unique performance for one boar in state fair competition. Laurel Champion was bred by Prof. C. F. Curtis, Ames, Iowa, and is considered the best son of Rival's Champion Best, and many times grand champion boar of the East. He is a grandson of Rival's champion, the first grand champion boar of America, and a great-grandson of Lord Premier's Rival, a half interest in whom sold for \$4000. Laurel Champion is four years old and weighs 850 pounds in breeding condition.

CUNNINGHAM'S O. I. C.'S ARE PROLIFIC.

The sows in C. B. Cunningham's herd of registered O. I. C. swine at Mills, Cal., are doing their part toward populating California with good white hogs. Two gilts recently farrowed 11 and 13 pigs, respectively, and each is raising ten of her litter. There are ten good sows to farrow in the Cunningham herd this fall, and at this rate more breeding stock will be available than ever before in this herd. This is encouraging, as Mr. Cunningham has never yet been able to fill the demands made upon him for breeding stock, and there are already orders for as high as 20 sows coming in to be filled out of the fall litters.

Successful farming and marketing are the basis of all human progress.



LAMB'S AMERICAN BEAUTY.
Grand Champion Duroc-Jersey Sow at 1914 California State Fair. Owned by Elmer Lamb.

Registered

Poland China Swine

PRIZE WINNERS

Finest Stock in the State from \$30 up.

I have for sale fine Young Boars sired by Gold Coin, Master Banker and Wonderful Victor. There is no better blood in the world.

M. BASSETT, Breeder

HANFORD, CALIFORNIA

Poland China Swine

I have for sale pigs of both sexes sired by my boar, Great Prospect (57949) out of sows sired by A. Wonder. For prices write or call

BROWNING STOCK FARM, WOODLAND, CALIFORNIA.

W. H. BROWNING, Prop.

O.I.C. SWINE

WEANED PIGS

of both sexes, ready for delivery in December. From ten different sows, all good ones. Sired by three different boars, all good ones.

Everything Immunized Against Hog Cholera by Double Treatment

Stock registered and crated Free.

C. B. CUNNINGHAM.

MILLS, CALIFORNIA



Look for this name on every sack



If Your Dealer Can't Quote Prices Write Us Direct

A Natural Food For Hogs, Dairy Cows and Poultry

Pure Coconut Oil Cake Meal

Made From Selected Cocoanuts By OUR IMPROVED PROCESS

Contains 16.4% Protein All Digestible

Free Sample and a copy of our booklet containing valuable information on the subject of "Successful Feeding" sent gladly on request. Write today.

Address Department D

PACIFIC OIL & LEAD WORKS Manufacturers

155 Townsend Street San Francisco, Cal.

When writing advertisers It will be appreciated by advertiser and publisher if you start your letter: "Referring to advertisement in the Live Stock and Dairy Journal."

CHAMPION PEN OF DUROC-JERSEYS.
Barrows under 1 years. Owned by J. K. Fraser, Denair, Cal.

Knob Hill Stock Farm
REGISTERED.

Poland Chinas

I offer young stock of both sexes out of prize-winning stock. Call and see my herd or write for prices.

A. M. Henry, Farmington, Cal.

GLENVIEW RANCH
LARGE TYPE, REGISTERED

POLAND CHINAS

Have a fine, vigorous lot of Baby Pigs of both sexes. Quality and price right. Order early as supply is limited.

CHAS. R. HANNA,
R. 3. Riverside, Cal.

FAIR VIEW HERD

POLAND CHINA HOGS

Booking orders for future delivery of pigs from our prize winners.

W. A. YOUNG, Prop.,
LODI, CAL.

Poland Chinas I have an extra good selection of Pigs out of my good big type sows and sired by Iowa Wonder, son of A. Wonder, and Longfellow 3d, son of Longfellow Jr. Pigs and prices are right. Write me your needs.

N. HAUCK,
ALTON, HUMBOLDT CO., CAL.

PURE GOLD STOCK FARM

Breeders of BERKSHIRE HOGS
HOLSTEIN-FRIESIAN CATTLE

Offers for sale a few Choice Boars of breeding age, and a number of Boar Pigs containing the blood of Masterpiece and Robinhood. Prices, \$25 to \$75.

Also one choice Yearling Bull of good breeding.

MARKOFER & LATTA, Elk Grove, Cal.

DUROCS At State Fair, 1st aged sow, 1st sow under 18 months; 1st boar under 2 years, 1st prize aged herd. Pigs \$15 from this herd.

Rucker & Coppin, Fair Oaks, Cal.

DUROC JERSEYS

Choice registered stock of both sexes for sale. Correspondence solicited.
J. W. MOWRER, Turlock, Cal.

BERKSHIRES

Registered purebred stock of all ages.

Traver W. Goethe, Walsh Station, Cal.

DUROCS and BERKSHIRES

Can supply up to 175 head registered Duroc and Berkshire sows and gilts. Also have good lot grade Berkshire sows and gilts. H. P. SLOCUM & SONS, R. 1, Willows, Cal.

DUROCS Out of first prize winners State Fair. Boars ready for service. Choice gilts.

Pigs, either sex, \$15.
ED. E. JOHNSON, TURLOCK, CAL.

Duroc Swine Fine lot of young stock for sale. Bred gilts and young pigs, both sexes. The long type and the kind that wins. J. K. FRASER, Denair, Cal.

BERKSHIRE SWINE SHORTHORN CATTLE

Choice Young Stock for Sale.

H. L. MURPHY, Perkins, Cal.

BERNSTEIN'S RANCH Poland China Hogs

The Money Makers.
The Prize Winners.

W. Bernstein, Proprietor
Hanford, Kings Co., Calif.

ELK GROVE HERD

Berkshire Swine

Three first prizes and Champion Sow at 1914 California State Fair. Silver cup for best young herd bred by exhibitor at same fair. Young stock for sale.

F. W. WHITE, Elk Grove, Cal.

HOW THE PHOTOGRAPH HELPS THE ADVERTISER.

(Written for the Live Stock and Dairy Journal by James Yates.)

The good photograph is the only true way to show prospective buyers your stock, be it poultry, cattle, horses, or any kind of live stock, when your selling is done through your live stock paper and the buyer makes his purchase without coming to your place, which is frequently the case.

If you are taking the photograph of an individual bird you will not get very good results if you take the bird to a studio, unless the bird is unusually tame, and then a great deal depends upon the temperament of the photographer, also his knowledge of how the bird should stand to be near typical of that particular breed. This will apply to other live stock as well.

A photographer that does not do much field work has little idea how you want your live stock to stand, and does not know just the time to snap the camera to get the bird or animal at its best natural position.

If you have pure bred poultry or stock on the farm, about the most satisfactory way is to get a camera of your own, or have some one that is used to live stock operate the camera.

There is an individuality about every photograph, and used to illustrate an advertisement it will attract as much attention as three times the same space in type.

represent any particular individuals.

Stock cuts are not as good as photographs, and in fact they should never be used with a claim that they

Most publications are willing to run cuts made from approved photographs of stock for their advertisers, the advertiser of course to pay for the making of the cuts, which is a comparatively small item, and when printed on a good quality of paper, such as is used in the Live Stock and Dairy Journal it not only adds life to the appearance of the paper, but is also an important supplement to the display advertising carried by the breeder. If you have the cuts made yourself for use on paper similar to that used in the Journal they should be 133 screen. If for use on cheaper paper they should be from 85 to 100 screen. Screen refers to the number of lines to the inch. Examine some of the cuts in this issue and you will note that the surface of each is made up of very fine dots running in regular lines.

Some of the large Eastern poultry journals work over the photographs from their large advertisers, and make an ordinary photograph look as though the bird was most perfect in every respect. This practice deceives many beginners, for after waiting a long time for their bird to arrive it doesn't look like the retouched photo and the result is a dissatisfied customer. It is these fine pen-made photographs that lures the man to send a good price east for a bird and not get what he was expecting, when better birds could have been bought until fair time to have pictures taken. While animals and birds are usually in the right condition at this time they are not in the right surroundings, and every year we have the same old photographs with a back on this coast for less money.

(EDITOR'S NOTE.—There is nothing that has kept down the standard of quality of live stock photographs more than the practice of waiting

OAK GROVE BERKSHIRES

We have the best lot of pigs we have ever bred coming on at the present time. These are out of some of the best sows in our herd and sired by ARTFUL, MASTERPIECE, BRINTON'S LONGFELLOW, IOWANA MAJESTY and IMPROVER B, Grand Champion boar at 1914 California State Fair. Pigs by IMPROVER B will be ready for delivery about December 1st. The number of his pigs is limited and it will be well to place orders at once for them.

The entire herd is immunized against hog cholera,
and nothing but immunized stock is sent out

OAK GROVE DAIRY FARM Woodland, California

ground of crates, machinery and the other trimmings of a fair ground. We know from experience that it is worth spending a whole day or more if necessary to secure the right kind of photograph of a herd sire for example, and the proper place to get the picture is at home where he is not worried and will readily stand in a natural position.)

BERKSHIRES AT SPOKANE.

The 1914 Spokane Interstate Fair at Spokane, Wash., brought out the strongest show of Berkshires ever gotten together in the northwest not excepting the Yukon - Pacific Exposition. The splendid herds of Chas. M. Talmadge, Newport, Wash., and J. A. Simonson, North Yakima, Wash., carried off the major portion of the awards, Talmadge winning best in the boar classes, while Simonson got the better of the sow competition. Big Four, the one entry of F. R. Steel, Grants Pass Ore., won well.

Laurel Champion, the grand champion of the northwest circuit last year, won the aged boar class and was made senior and grand champion boar. He was exhibited by Talmadge, but was sold to Steel for \$750 during the fair, the price being regarded as the highest ever paid for a Pacific coast hog. Laurel Champion won on scale, great length, extra strong, well arched back and splendid feet and pasterns.

Big Four, the first under six months' boar of last year's American Royal, owned by Steel, won the junior yearling boar class in very strong competition. J. A. Simonson's Jule's Duke, which was grand champion over all breeds at the Southwest Washington fair this fall, took second. Big Four won on great length and stretch, good head and lots of scale. He was later made reserve grand champion boar.

Simonson's Princess of Albany, that was grand champion sow of Washington in 1912, won the aged sow class from a splendid field. She is an 816-pound sow with lots of quality, great length and tremendous depth. Talmadge's Matchless Bell 10th, grand champion sow of the 1913 Spokane Interstate fair, was second. Simonson's Victoria Princess 6th took third. Princess of Albany was made senior and grand champion sow.

The under year sow class turned out the best lot of gilts ever put into a Spokane show ring. Silbira Duchess 15th, a daughter of Laurel Champion, won the class and was made junior champion sow, the judge, Prof. Iddings

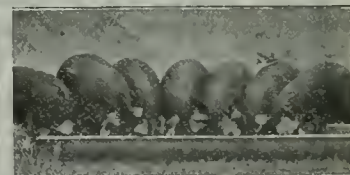
her the best under year gilt he had ever seen. This sow was bred and shown by Talmadge, but like her sire, was sold to Steel during the show. Silbira of the University of Idaho, pronouncing Duchess 15th shows great length a point especially emphasized by Prof. Iddings in all of his awards, a splendid back, good pasterns, a perfect head and remarkable symmetry all through

BERKSHIRES Bred for large, strong litters. All ages for sale. Boar pigs, \$10; sow pigs, \$12.

J. M. Bomberger, Modesto, Cal.

TAMWORTHS

The big red bacon and block hog. Send for prices and circulars.
COTTLE & HOBSON CO.,
Amsterdam, Cal.



BLATCHFORD'S PIG MEAL

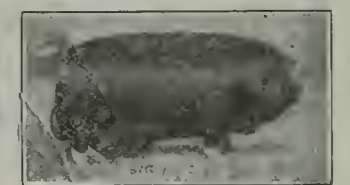
WEANS THEM SAFELY
and
STARTS THEM RIGHT.

100 POUNDS makes 100 GALLONS
— of —
PERFECT, SMOOTH, NOURISH-
ING MILK SUBSTITUTE.

FREE FOLDER AND PRICES ON
REQUEST.

COULSON CO.

PETALUMA, CALIFORNIA.



REGISTERED PUREBRED POLAND CHINA SWINE

Herd headed by Designer (160363), Grand Champion Boar Oregon State Fair, 1911. Seven champion crosses close up. My sows are EQUALLY as WELL BRED. HAVE NOT HAD CHOLERA IN MY HERD OF THIRTY YEARS. Choice Pigs for Sale. (Registry Free to Purchaser.)

S. F. WILLIAMS
CHICO, CALIFORNIA.

PLAINFIELD STOCK FARM BREEDER OF

Berkshire and Duroc Swine

All blood imported from East. Pigs and gilts for sale in spring by such sires and dams as JUDGE ROBINHOOD and COLLEGE BELLES (195418)

Write us your wants.

H. M. BULLARD, Proprietor,

Woodland, Cal.

GREAT BULL BORN AT WILLOW-MOOR FARMS.

What is unquestionably the most richly bred Ayrshire bull living was recently born at Willowmoor Farms, owned by J. W. Clae, Redmond, Wash. This royal youngster is out of Lily of Willowmoor, the second highest producing Ayrshire cow in the world, having an official record of 22,106 pounds milk, \$88.70 pounds butter fat, equal to 1,037 pounds of 85% butter in one year. The sire of this young bull is Willowmoor Sentinel, whose dam, Garranton Dora 2nd, is the third highest producing Ayrshire cow in the world, having an official record of 21,023 pounds milk, 803 pounds of butter fat in one year. Thus in this young bull is combined the blood of the second and third highest producing cows of the breed, both of which were world's record holders when records were made. Barring accidents the impress which this young bull will make upon the Ayrshire breed will mark a distinct advance in Ayrshire production.

THE COST OF HORSE LABOR AND ITS RELATION TO FARM ORGANIZATION.

Farmers generally aim to keep enough horses to be able to handle their work promptly during the rush periods. Some men keep an extra horse as an insurance against mishaps. On highly specialized farms, where only one or two crops are produced, this may mean the keeping of horses for work during short periods with little or no work for them the rest of the year. Unlike the idle plow the horse must be fed and cared for even when not used. The actual cost of keeping a farm horse is close to \$100 a year, and one or two extra horses materially increase the expense of operating the farm. Many farmers, when brought to realize the expense of keeping a horse, have modified their farming systems so as to better distribute the need of horse labor and by so doing have been able not only to dispense with one or more horses, but also to get more profitable work from the remaining horses and to increase the net earnings of the farms.

The following statement illustrates the fact that horse labor is expensive:

		Pr. Hd.
Corn, 239.75 bu.....	\$0.595	\$172.30
Oats, 556 bu.....	0.36	235.44
Oil cake, 50 lbs.....	0.02	235.44
Oil cake, 50 lbs.....	0.02	1.00
Hay, 12.08 tons.....	18.50	223.55
Straw, 168 bales.....	0.377	74.65
Total feed.....	\$706.94	\$68.70
Pasture and building charge.....	100.80	9.81
Labor.....	69.49	6.75
Interest on inventory values.....	50.52	4.95
Shoeing and sundries.....	21.50	2.09
Total.....	\$949.35	\$92.30
Credits—		
Manure.....	\$25.00	
Increased inventory.....	25.00	
	50.00	4.85

Total net cost.....\$899.35 \$87.50
This farmer, after obtaining a record of the cost of keeping his work horses, found that the feed alone, charged at farm prices, was \$68.70 per horse. The total of all costs was \$92.30. By crediting the horses with value of manure saved and with the increase in value of young horses, the net cost is \$87.50. Compared with other cost data on horses this is a reasonable yearly cost per horse. These horses worked an average of 813 hours per horse, which cost \$87.50, or 10½ cents for each hour.—C. M. Bennett.

MULICK SELLS CHOICE HOLSTEINS.

The Live Stock and Dairy Journal: Did my ad in the Journal get results? I should say it did! I sold the seven cows and bull advertised, together with nearly all the cows and bulls that I and six of my neighbors had, at least all that money could buy, and in addition to that sale from one little ad I have had a flood of inquiries from all parts of California, as well as from Oregon, Washington, Nevada and Arizona.

The choice of our females, about 45 head, and a few bulls went to George A. Smith, Corcoran, Cal. I am informed that Mr. Smith will include these cattle in a public sale to be held in the near future, and for the information of those who intend buying pure-bred Holsteins will say that in all my long experience in selling I have never met a more careful and conscientious buyer. Careful, because he wanted to know each animal individually, and conscientious because, while he was buying cattle to sell in a few months hence, he bought as if they were to become a part of his permanent herd.

N. E. MULICK,
Willows, Cal.

WILLIAMS HAS LARGE DEMAND FOR POLAND CHINAS.

S. F. Williams of Chico is regretting the fact that he has not about four times as large a herd of registered Poland China hogs. He has been unable to nearly fill his orders for gilts and has only a very few boars left at present. The herd boar, Designer, is a consistent getter of pigs of high quality, and much of his get have been used as foundation stock by Oregon and California breeders.

The gambling instinct is said to be present in all human beings. It seems to be particularly strong in most dairymen, who prefer to gamble on the chance of profit rather than play the sure thing game with a Babcock tester.

CLASSIFIED ADVERTISEMENTS

Rates: Two cents per word each issue. Minimum, 50 cents.

Classified Advertising payable in advance.

DAIRY AND STOCK FARMS.

Victoria, Australia, Wants Settlers

Special inducements; government land, railways; free schools; cheap irrigation; 31 years to pay for farms adapted to alfalfa, corn, grains, fruit, etc.; climate like California; ample markets; reduced passages; special excursions being arranged. Free particulars from F. T. A. ERICKE, Government Representative from Victoria, 687 Market St., San Francisco, Cal. Box V.

83 ACRES, out of which 65 are planted in alfalfa, irrigated; no improvements. 153 Acres, out of which 60 are planted in alfalfa, irrigated; no improvements.

56 Acres, all in alfalfa, irrigated. These lands are situated in the famous Oakley Homestead Tract, two miles from Wheatland, Yuba County. Soil is mostly rich bottom land. Prices range from \$150 to \$165 per acre.

A number of large stock and dairy ranches on hand in Yuba and Sutter Counties. Alfalfa land in 10, 20 and 40 acres and up.

In addition we are sole owners of Hallwood irrigated farms, with the best system in the country. Unsold land in this tract especially adapted for rice, which has proven to be a splendid success.

No matter what you want we can please you. State your desires and we will take pleasure in giving you thorough description.

Remember, no trouble for us to answer questions. Write today.
GOLDEN LAND & INVESTMENT CO.,
Marysville, California.

HARES.

THOROUGHbred BELGIANS, with or without pedigrees. THE OLD HICKORY SUPPLY CO., Dept. 11, San Francisco and Los Angeles.

THOROUGHbred RUFUS RED BELGIAN BUCKS. 5 months, \$1.50 breeding age, \$2.00. Common hares very reasonable. Write ARTHUR NYGAARD, box 115, Orland, Glenn Co., Cal.

FARM IMPLEMENTS AND SUPPLIES

SECOND-HAND PIPE.

Very best quality of selected Second-hand Water Pipe and Standard Screw Casing. For quality and low price you make no mistake when buying water pipe of the Weissbaum kind. Largest pipe works in the West.

WEISSBAUM PIPE WORKS,
162 ELEVENTH ST., SAN FRANCISCO.

"Smith's Pay the Freight"—To reduce the high cost of living, send for our Wholesale to Consumer Catalogue. Smith's Cash Store, 121 Clay St., San Francisco.

POSITION WANTED.

A YOUNG MAN experienced in stock and general farming wishes position to manage farm. Can furnish high-class references. Address, FARMER, care of The Live Stock and Dairy Journal, Sacramento, Cal.

WANT to take charge of a cattle or horse ranch. Understand the breeding of Holstein and Hereford cattle, also the breeding of thoroughbred and trotting horses. Would consider taking a place on the share basis. Am a full graduate of the University of Nebraska. Address, BREEDER, care of The Live Stock and Dairy Journal, Sacramento.

SEEDS.

EARLY AMBER CANE seed for sale. J. W. TERRILL, Del Paso Heights, Cal.

BEEES.

BEEKEEPING PAYS BIG. Price list bees, instruction, books, etc., free. SPENCER APIARIES, box 24, Nordhoff, Cal.

WHITEHALL ESTATE COMPANY RAISING HOGS ON LARGE SCALE.

Whitehall Estate Company, with ranches in San Joaquin and Yolo counties, are now in the hog raising business in rather a large way. Our latest advices from these ranches are to the effect that they now have something over 3,000 head of hogs, of which number there are about 800 young sows ready to breed. The Whitehall people have recently been heavy buyers of registered Berkshires, both males and females.

LIVE STOCK.

CHOICE young Jersey Bulls and Bull Calves. Some good cows. N. H. LOCKE CO., Lockeford, Cal.

PUREBRED REGISTERED PERCHERONS AND BELGIANS—A few choice young stallions from 3 to 5 years old. Also 2 and 3-year-old Percheron fillies for sale. LOS ALTOS STOCK FARM, Los Altos, Cal.

HOLSTEIN BULLS—Pure bred young Holstein bulls for sale on Thompson Ranch, near Napa. For prices and particulars, address J. B. Agee, Napa, Cal.

FOR SALE—Toggenburg Goats, cheap. Some choice Toulouse Geese. MRS. J. B. GUERARD, R3, box 28, Merced, Cal.

FOR SALE—50 head of A. No. 1 dairy cows, Durhams, Holsteins and Jerseys, coming fresh from December 1st to March 15th. Also 7 head of registered Jersey cows and calves. Fine foundation stock. PEUGH BROS., Eureka, Humboldt Co., Cal.

I WANT COWS for their feed. J. W. TERRILL, Del Paso Heights, Cal.

POULTRY.

INCREASE YOUR HEAVY LAYERS—

Introduce 230-egg type cockerels from trap-nested White Leghorns and get results. Birds most sturdy. \$1.00 each. O. C. HUDSON, R2, Escondido, Cal.

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Rose Comb Brown Leghorn Cockerels, Single Comb Buff Leghorn Cockerels, \$1 each. Nicely marked Collie puppies, \$5 each. JAMES LOWE, Encanto, Cal.

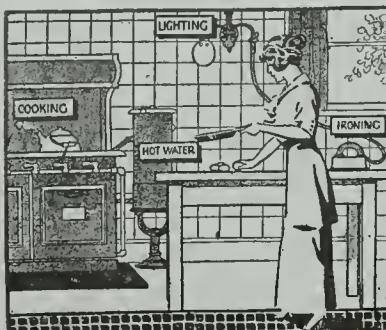
FARMS WANTED.

WANTED—To hear from owner of good farm for sale. Send description and cash price. D. F. BUSH, Minneapolis, Minn.

WANTED—To hear from owner of good poultry farm for sale. State lowest cash price. Western Sales Agency, Minneapolis, Minn.

RICH & LIPPINCOTT RANCH BUYS BERKSHIRES

A choice lot of young Berkshires were selected recently by Rich & Lippincott Ranch, Los Angeles County, and shipped to the ranch as foundation stock for a large herd of registered Berkshires. The stock was purchased from Oak Grove Dairy Farm, A. B. Humphrey, and S. S. Day. This places some of the best Berkshire blood in the west in Southern California and will be of great importance in building up the hog business in that section.



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POULTRY

THE SAN FRANCISCO POULTRY SHOW.

Everyone, whether a consumer or a raiser of squabs, should see the pigeon exhibit at the San Francisco Poultry Show held at the Auditorium, December 8th to 13th. All the known breeds that produce squabs will be shown. Equally important will be the display of crosses, where the effects of mating small, quick-maturing varieties with the large, slower developing birds, will be shown.

In the fancy pigeon exhibits there will be a large showing of imported birds, such as Dragons, Sandarons, Pouters, Tumblers, Fantails and the crested varieties, Jacobins, Turbits, Swallows and Archangels.

The dressed poultry exhibit is to be on a larger scale than heretofore. The advantage of dry picked birds over scalded will be shown. The effects of proper and improper bleeding of fowls. The dressing of birds for market display, the position of the wings and legs, what feathers to leave and many other points of like tenor.

Nothing engenders in children the love of live stock like pets, consequently this feature is going to be handled on a large scale. Every possible kind of children's pets are being entered.

Several eastern birds have been entered in both fancy and utility poultry exhibits, so that this branch of the show will be representative. The individuals that carry off the prizes will have to be top notchers in their line.

E. J. Talbot, Mutual Savings Bank building, San Francisco, is the show secretary.

Poultry Editor Live Stock and Dairy Journal: Dear Sir—Will you give me a mash that will help the molt and further the hens towards laying more quickly? I will look for it in next issue and thank you. Yours, G., Covina, Cal.

Mix the following in either a dry or crumbly mash. If crumbly what they will eat clean in 20 minutes once daily; if dry, all the time in a hopper: Five parts bran, 3 shorts, 3 feed meal or corn meal, 3 barley meal, one good fish meal or beef scrap, half a part ground dry bone, half a part linseed meal, quarter part fine charcoal. All by measure. For grains give equal parts wheat, oats and Egyptian or Kaffir corn, a quart daily in deep litter to every dozen hens. Plenty of greens, grit, shell and clean water. Also in the drinking water you should add at this time for three or four weeks 15 to 20 drops tincture iron daily to each quart.

Poultry Editor Live Stock and Dairy Journal: Please tell me in next issue what weights hen's eggs should be and extra select ones.

Generally from 21 ounces and up to the dozen eggs are counted hen's eggs, below that are pullets; above 26 ounces to dozen are considered extra select. The weights vary a trifle, an ounce, either way, in different localities.

Poultry Editor The Live Stock and Dairy Journal: Please tell me what to do to help my hens. They are molting and appear quite dumpy. I feed them a good balanced mash daily, with a mixture of grains in litter, about a quart to 15 hens. Greens, grit, shell and clean water.

Thanking you for other advice months ago, yours truly, M. O., Ontario, Cal.

They no doubt need a tonic, as the vitality is low at this period of the year. Give for three or four weeks daily 15 to 20 drops of tincture of iron to each quart of the drinking water. Also add 5 per cent of linseed meal daily to the mash, by measure. Gradually drop both when a good coat of feathers show up and their eating ability returns.

Poultry Editor The Live Stock and Dairy Journal: Dear Sir—Will you kindly say in next issue what to do for hens that eat eggs. I have two, caught them at it, and do not want to kill them. Oblige. SUBSCRIBER T., Tulare, Cal.

Make the nest box long and dark, have the top loose to gather the eggs, place several china eggs around for them to pick at. If that does not stop them tack a piece of sacking or burlap on the four sides on inside box, so that when it is tacked in place it hangs somewhat like a bag from side to side and from end to front, with a depression in the center, and the drop in the center should be about two or three inches above the straw of the regular nest. Then cut a cross in center where it hangs down towards the straw, so that when the egg is laid it will just drop through on to the straw underneath and be from sight of the hen that laid it, so the cross must not constitute a large hole, just big enough to pass the egg through. Also the front of burlap or sacking must be tacked down to prevent hens from entering underneath. A place at end can be left untacked to allow hand to collect eggs.

Poultry Department Live Stock and Dairy Journal: I would like to know the names of medium weight breeds that are considered good laying stock. Thanking you in advance, yours sincerely, M. L., San Rafael, Cal.

Minorcas, Leghorns, Anconas, Blue Andalusians, Buttercups, Campines, Spanish and Wyandottes. There are other good breeds, but they belong to the heavier weights.

Poultry Editor, The Live Stock and Dairy Journal: Enclosed return postage for reply to this question: I have a pen of birds that have a wheezing in the throat, heavy mucus shows on opening same. One or two developed a cheesy matter on top of windpipe or on tongue. What is the matter, and how to remedy? Thanking you for any advice, Yours truly, K. O., Santa Barbara, Cal.

The birds certainly have diphtheria, a very contagious disease, the symptoms are sure. They must be separated from any healthy birds and medicated. The easiest way, and a good remedy, is Dr. Wheeler's Specific No. 1, advertised in these columns, just mixed in the drinking water as per directions that go with it.

Poultry Editor Live Stock and Dairy Journal: What shall I do to cure bumble foot? Oblige. N. A., Stockton, Cal.

If the corn or humble foot has not got to the stage of forming pus severely, paint outside the heavy skin with tincture of iodine daily on swelling right to edge of same. That should scatter the trouble. If it does not remedy in a week or ten days write again for instructions how to make an operation.

Editor Live Stock and Dairy Journal: Please tell me if a rooster is any good to breed from that has never become full grown. I say not, one of my neighbors says it is. Oblige, M. N., Oakland, Cal.

A chicken, male or female, that has not attained full growth at 18 months is a runt, and should on no account be used for anything but to decorate the dinner table when the family feel a hungry spell come over them, and

only then should the bird be so used if it is quite healthy. To overcome the toughness of flesh it should be simmered slowly, and made into a fricassee.

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Farm Woman's Page

CONDUCTED BY AUNT MARCEL.

This department is conducted for the purpose of dealing in a helpful way with the many problems which are encountered by the woman on the farm. Household and home questions from our women readers are encouraged. Address all correspondence for this department to Aunt Marcel, The Live Stock and Dairy Journal, Sacramento, California.

SOME GOOD STAINS FOR PINE FLOORS.

How can the ordinary pine floor be made presentable without covering it with carpet? This is a problem which is perplexing many housewives.

A number of stains and varnishes which have proved satisfactory for such floors have been worked out by students in household management in the home economics department at the College of Agriculture, University of Wisconsin.

"Before applying the stains," says Miss L. M. Scoville, who directed this investigation, "the floor should be carefully smoothed with sand paper or steel wool. If the floor is soft or very old, fill the pores of the wood and all cracks with a filler of some sort. A good paste for this purpose may be made from whiting or starch mixed with either oil or turpentine. Shellac varnish is often sufficient, if the larger cracks are first filled with the paste mixture. The floor should dry for twenty hours and be sand papered for a second time before the stain is applied."

Here is a good method for giving a pine floor a pleasing finish with a slightly yellow maple color: Apply two coats of a mixture of one-half ounce burnt umber, one quart of raw linseed oil, and two and one-half ounces of yellow ochre. Allow the floor to dry well and then wax.

To give a floor a good brown tinge make a stain of one pint boiled linseed oil, one tablespoon burnt umber, one pint of turpentine, one tablespoon sienna, and two tablespoons chromo yellow. This stain will serve as a filler as well as a finish on a smooth floor with no cracks. Apply two coats and then wax.

For a light finish for a pine floor apply ammonia before the filler, to penetrate the wood and darken it slightly. After the filler is dry, sand paper and apply two coats of varnish, rubbing each coat with powdered pumice stone.

TALKS ON ENGINEERING

Value of Mechanical Equipment for Household

By G. R. Bascom, municipal and Sanitary Engineer, Extension Division, University of Wisconsin

The subject of mechanical household equipment has been until recent years very sadly neglected. This is quite evident when one visits the average farm home where as yet the modern equipment is lacking and the same general line of household conveniences which grandmother used are still in service. The average farmer's wife uses the same old churn, the same old broom, dust pan, mop, cook stove, and wheezy pump which the grandfolds used. The only marked improvement which one can note as generally adopted is in the slight changes in types of utensils.

Compare this with the general adoption of farm equipment. What farmer now cradles oats with the old-fashioned cradle? Many never saw one. How many farmers are there who still mow the hay with the old scythe? In place of equipment used by grandmother there is practically an entire new field of labor saving devices. There are available the same old line of labor saving devices for the mother in the home; and to the man on the fence it

would appear to be poor economy to pass such equipment by, especially since the commissary department maintains a position of vital importance on the farm.

The retired farmer who moves "to town" does so usually because his wife is worn out and must have rest which is made possible by the convenience of public utilities such as water, gas, electric lights, sewage disposal, good roads, etc. How much better off he would be at home if he could be induced to install these conveniences on the farm and join hands with his neighbors in promoting such improvements as tend to keep men on the farm.

The work of the farmer's wife can be changed from drudgery to real pleasure by adopting up-to-date equipment, and savings can be effected which will more than pay for the entire cost. It is estimated by government experts that the average farmer's wife lifts more than a ton of water per day! The most conservative figures will show that the cost of this wasted energy would pay for a complete water works system in less than five years and carry the interest on the investment.

The installation of a safe system of sewage disposal will, in many cases, be paid for directly in reduced doctor's bills and loss of time on account of illness. A good heating system will heat the average house at a cost which is less than one-half the cost of heating stoves.

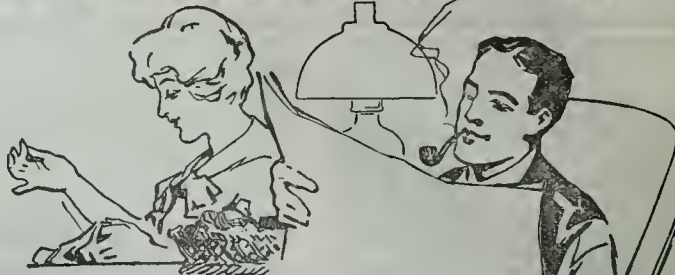
A little sprinkling in the garden at the right time may easily save a hundred dollars' loss, and a garden hose with only a fair water pressure available will usually save losses which would pay for the water works system many times over. Further, the water works system can very easily be designed so as to permit the installation of an automatic sprinkler system which will practically eliminate fires. This one feature of fire prevention is alone of sufficient economic importance to warrant the adoption of the equipment needed to avoid such losses.

Lamps, lanterns, candles, etc., are the cause of most country fires. These could be practically eliminated by the installation of a small co-operative electric lighting system in the neighborhood—and light made available at a rate cheaper than by using kerosene lamps.

There are other considerations which prove the economic importance of household equipment, among them the following: Time saved in the house could be profitably spent in the garden or with poultry or bees and would introduce the much needed change of interest and fresh air needed to bring health and recreation to the tired mother. The servant girl problem is very materially bettered if not altogether solved. There is little wonder that girls will not go to work on farms when forced to live in uncomfortable homes and work with poor equipment. Few girls were ever lured away from the city by pictures of a week-end bath in a wash tub.

In some cases the power equipment needed for milking machines, cream separators, feed grinders and other farm machinery can be used in the supply of power for the household and thus serve a double duty. In fact it should be understood by the farmer that a comprehensive plan of the entire mechanical equipment should be worked out for each farm so that wasteful duplications and expensive changes may be avoided. These are problems which call for the services of an engineer. The farmer cannot afford to economize by designing his own power plant and sanitary equipment. A farmer can no more be expected to be an expert on farm machinery than can a mechanical engineer be expected to judge live

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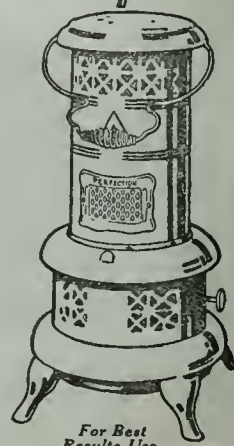
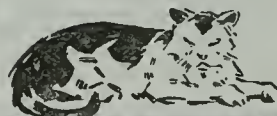
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stock. If we estimate the cost of such improvements as plumbing, heating plant water supply and sewage disposal system at the average of \$1000, we must show that the value of these improvements based on interest of six per cent must be at least \$60 annually to justify their adoption, when considered simply on the dollars and cents basis. This certainly is true of most farm homes. The farmer who can thus save \$6 per month by installing these improvements is justified in going into

debt for them. The banker who is in business to help the farming community can as well afford to lend money on such equipment as on farm implements, and should encourage such loans. Farmers, nationally, carry a debt of only about 15 per cent of the value of the farms, and can borrow money on at least 40 per cent of the value of the property. This, in view of the fact that many Wisconsin farmers are paying for their farms in seven to eight years, allows no excuse for not furnishing the farm home with the more modern conveniences. The man who is not convinced of this fact should trade places with his wife for six months, and keep accurate account of the time lost in carrying water, cleaning lamps, throwing out slops, building stove fires, etc. At the same time note the saving on doctor's bills. The result of such an investigation would be as revolutionary as has been the adoption of the modern farm implements.

SMITH-LEVER ACT AN EDUCATIONAL MEASURE.

No Government Funds Provided For Grants to Individuals

Many letters are being received by the U. S. Department of Agriculture which indicates that the farm women in various sections of the country have come to believe that the Government is about to assist them with grants of money to individuals. This unfortunate mistake, which, it is feared, will be the cause of considerable disappointment, appears to have arisen through a misunderstanding of the Smith-Lever Act recently passed by Congress. Under this act, funds contributed both by the Federal and State governments are made available for practical demonstration work in agriculture and home economics. Experts from the agricultural colleges and county agents, both men and women, are to show farmers and farm women the value of modern methods in agriculture and house-keeping, and demonstrate the use of labor-saving devices. The purposes of the Act are thus entirely educational; and there are no provisions whatever for direct financial assistance.

The demonstration work which the Smith-Lever Act is designed to promote has already met with considerable success in the states where it has been started, but the additional funds now available will greatly increase its efficiency. To avail themselves of the full of its possibilities the department officials recommend that farm women form local clubs and then communicate with the county agent or the state agricultural college. In this way it will often be possible to secure a visit from the county agent or from the home economics expert.

RECIPES.

Fritters.

Two cups flour, 1 cup sweet milk, 1 large teaspoon baking powder, 2 eggs, 1 salt spoon salt, 2 tablespoons sugar. Separate the eggs, beat the yellows and sugar together well. Have milk warm and add slowly. Add the flour and baking powder; beat until smooth. Carefully fold in beaten whites. Stir in thin slices of fruit (bananas, oranges, apples, etc.). Drop by large spoonfuls into boiling lard. Drain when done and sprinkle with sugar.

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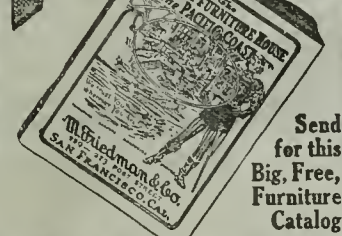
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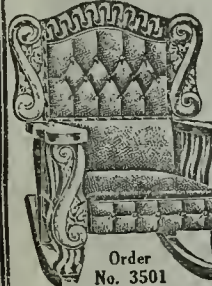


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HOW TO MAKE HARD WATER SOFT FOR USE IN LAUNDRY

It is carbonate of lime that makes water temporarily hard. Such water can be softened by boiling.

Permanent hardness is caused by sulphate of lime. The only remedy lies in the use of some chemical. Cheapest and best of these alkalies, is washing soda, borax and ammonia.

Washing soda, the most effective softener for ordinary use, should be used in the following proportions unless the water is very hard. For each gallon of water use two tablespoons of a solution made by dissolving one pound of washing soda in a quart of boiling water.

Borax is more expensive than washing soda but it is especially good for colored goods and wool.

Iron in water is hard to treat. The only satisfactory method is to add washing soda to the water and let it settle five or six days before using.—Annabell Turner, Instructor in Home Economics, Extension Division, University of Wisconsin.

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—*Thaddeus Stevens*

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Volume XIII No. 12

EFFECTS OF DISEASE ARE FELT IN CALIFORNIA.

The effects of the quarantine against cattle imported from the East are being felt already in California, and the plans of many who intended stocking up this fall have been disarranged for the present at least. The movement toward animal husbandry has assumed large proportions in all of the Pacific Coast States, and at the present time there seems to be a disposition on the part of bankers to loan money more liberally for the purchase of live stock than for any other agricultural purpose. There were some great public sales of registered stock of all the different breeds scheduled for the next few months in many of the Eastern and Middle Western States, and we know of a considerable number of instances where coast buyers had already made up their minds to attend some of these sales and make liberal purchases. As matters stand now, a part of the sales have been postponed indefinitely or canceled entirely, and in the ones that will go through as scheduled, it is probable that buying will be confined to bidders within the state where such sale is held, or else the stock will be bought and left at its present location until such time as the strict quarantine has been raised.

It is to be regretted that there is such a limited surplus of registered stock, especially in California, at the present time. The few public sales that will be held within the next few months will afford an opportunity to only a limited number of buyers to obtain the stock they need and it looks as though others will have to postpone their buying for a time.

HORSE OUTLOOK IS GOOD.

Present conditions seem to be particularly favorable for the horse breeding industry in America, and in one respect at least the European war is having a beneficial effect upon our horse markets. This war is absorbing thousands of light weight American horses that are suitable for cannon food, but are not in demand in the present day markets of our country, for home consumption. The removal of large numbers of this

class of horses from the country can not fail to have some beneficial effect upon the prices of heavier horses, while the real quality drafters will command even better prices than have prevailed during the past three years. It would seem that every farmer should at this time pay particular attention to the class of mares that he is breeding, being careful to keep only those of good size, drafty type, and sound bodies. By giving more attention to the brood mares themselves, and the breeding of them to only sound, registered stallions of the draft breeds, it would be comparatively easy to very materially raise the average quality of our draft stock within three years, and from the present outlook the man who does these things will be well repaid for his effort.

ANOTHER YEAR CLOSING.

This issue closes the Thirteenth Volume of THE LIVE STOCK AND DAIRY JOURNAL, and in spite of the many influences which have operated against large business expansion during the past year the JOURNAL closes the most successful year of its life. One of the most encouraging and pleasing features of its business progress is the rapidity with which its circulation list has grown during the past four years. There is now hardly a postoffice in California where the JOURNAL is not received by regular subscribers each month, and its list is rapidly extending into surrounding states. For several months past there have been more than 18,000 copies of the JOURNAL sent out each month, and twice the number has exceeded 19,000. The growth of the JOURNAL is the best indication of the immense development that has been experienced in all branches of live stock farming on the Pacific Coast during the past four years. This development has been so rapid that it is not yet generally appreciated even by the people living next door to it, but there is a growing consciousness in many quarters that California has a live stock industry that is its most valuable agricultural asset. And during the next five years, under anything like normal conditions, the advancement of every branch of our live stock farming promises to be the greatest feature of California agriculture.

With its great circulation the JOURNAL is in position to render the best service of its career to both subscribers and advertisers, and it takes a pardonable pride in the part which it has played in the development of California live stock farming up to its present stage.

BE NOT DECEIVED.

One of the surprises of the recent election in California was the overwhelming vote cast against the prohibition amendment. Any one at all familiar with sentiment all over the State knows, however, that the vote in the last election was not an expression of the real feelings of the majority of people upon the liquor question. In this particular campaign the liquor and saloon interests hid behind the grape vine, and the vote against the amendment was the result. It is well that the result was the defeat of the prohibition amendment, for it made impossible the cry that property had been confiscated, and hardship wrought upon innocent men and women engaged in agricultural pursuits. But the warning note has been sounded and at this time it behooves every grower of any crop that is dependent upon or a part of the business of manufacturing alcoholic beverages to look well to his future and to protect himself against the result of the next prohibition election held in California, for unless all signs fall the result will be entirely reversed next time.

California Holstein Breeders' First Consignment Sale

The first consignment sale of Holsteins held by California breeders at Hanford, Kings county, California, on October 28, 1914, was an unqualified success. It was very ably managed by James W. McAlister, Jr., of Chino, and his plans were well laid and admirably executed. There were no hitches and no delays, and everything needful had been provided for when the sale opened.

The sale was conducted by Col. Ben A. Rhoades of Los Angeles, and his genial salesmanship was never more effective or shown to better advantage. To him is due a considerable measure of credit for handling one of the most successful sales of Holsteins ever held in the United States.

The Merchants' Association of Hanford, who, under the initiative of Wm. Bernstein were responsible for the selection of Hanford as the place to hold the sale, banded better than they knew, and possibly better than some of us expected, for thirty-six head of the choicest individuals in the sale were taken home by Kings county buyers to the inestimable advantage of the agricultural wealth of the county.

On the evening of October 27th, the Merchants' Association tendered a banquet to the California Holstein-Friesian Association and their friends, and more than one hundred guests were at table. After welcome by members of the Merchants' Association, Mr. P. T. Davis, president of California Holstein-Friesian Association, was delegated as toastmaster and in his tactful happy manner guided the assemblage through a most pleasant and profitable evening.

The evening brought to light some real orators among our Holstein breeders, and the talks made by T. J. Gilkerson, Geo. A. Smith, A. W. Morris, J. W. McAlister, Jr., Geo. S. Hewitt and Frank Guerin, were full of enthusiasm for the black and white breed and its future in California.

J. P. Murphy of Tulare made a very interesting talk on the development of dairy herds through the use of the pure bred sire, speaking from his observations and experiences covering a long period of years, and hundreds of dairy herds.

The day of the sale was ideal from the weather standpoint, and a large crowd was on hand. In contemplating the results of this sale it should be remembered that this was a cash sale, which makes the result all the more remarkable. The \$36,800 for which the animals in the sale were sold was not all the cash in the crowd by a whole lot, either. There were a number of men in the crowd who wanted to buy Holsteins, and who evidently were so surprised at the prices bid that they forgot to register a single bid.

This sale furnishes food for thought in a great many respects, one of the most important of which is that it pays to put healthy well-conditioned stock into the ring, and to guarantee that they are right. The consignors at this sale inspired a degree of confidence among buyers that is an asset for future sales, for every condition stated in the preliminary announcements of the sale were strictly adhered to.

There were a number of little features of the sale that were eloquent of the strong demand for Holsteins in this state. Except in the case of a calf about a week old, there was not a bid offered at less than \$25 advance over the previous bid, and in many instances \$25 and \$50 raises were offered by several bidders at the same time.

While all of the consignors offered to buy back the calves that would be dropped by some of the cows they were offering, and offered as high as \$400 were made for such calves, it is significant that not a single offer of this nature was accepted by the buyers, who were thoroughly determined to keep the increase from the excellent heifers and cows which they secured.

The top price of the sale was \$1000, and was brought both by a bull and a heifer. The two-year-old heifer Stratford Lazon De Kol, consigned by T. J. Gilkerson, was purchased by J. G. Fakes for an even thousand dollars. This transaction met with great popular approval. In the first place the heifer was one that Mr. Gilkerson had intended to reserve for his own breeding herd, and intended to consign her mother to the sale. Through an error in entry, the heifer was consigned and the error

was not discovered until after the catalogue was issued. Mr. Gilkerson gamely let her go into the ring rather than permit the incident to reflect in any way upon the sale, and every one was glad to see this good heifer top the list of females.

Prince Juliana De Kol Walker, a royally bred young bull, consigned by A. W. Morris & Sons Corporation, topped the bull list, going for an even thousand to Hewitt & Hewitt. This youngster is out of Juliana De Kol, and her dam Juliana Minnewawa is still vigorous in the Hewitt herd. Of outstanding quality also was the young bull Prince Juliana Walker, consigned from the Morris herd, and bought by Geo. A. Smith for \$900.

Edith Mandel De Kol, an A. R. O. 3-year-old out of a 30-pound dam, was popularly picked to top the females, but fell a trifle short when W. H. Ginn & Son secured her for \$350. This is one of the most promising young cows in the sale, and she should give a very good account of herself in the Ginn herd.

Many of the buyers were men just starting in the pure bred business, and they were indeed fortunate in securing good healthy stock, fully guaranteed, and with many of the cows and heifers in calf to some of the best sires in California. There was a great deal of very sensible bidding done because of the calves being carried by some of the females. The stock was generally in very good condition. Frank Guerin brought in his consignment almost out of the pasture and they looked a bit rough compared with some of the others, but they loomed up large in the sales ring and were in active demand at good prices. The get of Arcady Pontiac Wayne Hengerveld were again in evidence in this sale, and as they were quite well distributed among the various buyers, it is likely that they will be given an opportunity to still further extend the good reputation of their sire.

McAlister & Son brought up a consignment of uniform excellence from their ranch in the southland, and buyers secured some very choice foundation stock from among them.

Those few pessimists who expected this sale to be a sale of culis were mightily disappointed, for there were no culis in the sale, and every breeder who consigned stock lived up to his promise to put into the ring only individuals of high quality and promise.

The consignment of A. W. Morris & Sons Corporation met with merited approval, and topped the sale on averages for both males and females catalogued. There was an especially strong appreciation of bull values evidenced in the bidding, but it seemed as though F. M. Helm of Fresno secured one of the bull bargains when he secured the choice calf Lorena Riverside Korndyke for \$400. Bulls of his individual excellence, by such a sire, and out of a 26-pound dam are scarce at almost any price.

There were 95 head of both sexes and all ages sold for a total of \$36,800, or an average of \$387.37.

The averages of consignors was as follows:

A. W. Morris & Sons Corporation:	
6 bulls	\$550
12 females	\$31
T. J. Gilkerson:	
1 bull	\$125
4 females	\$18
R. F. Guerin:	
5 bulls (calves)	\$125
27 females	\$33
Geo. S. Hewitt:	
2 bulls	\$250
12 females	\$35
McAlister & Son:	
2 bulls	\$175
23 females	\$33.50

Among the buyers, besides the individuals already referred to, there were quite a number of bidders who secured only one or two head, while new breeders secured excellent foundation herds in other instances.

Charles Yoakum gathered in ten head of particularly choice young cows and heifers, and has the making of a good herd.

W. H. Ginn & Son bought an even dozen of the choicest cows in the sale, and these will be added to their good breeding herd.

F. D. Ross bought seven of the best bred females, and has laid the foundation.

(Continued on page 11.)

BEEF CATTLE

STERILITY AND ABORTION IN DOMESTIC ANIMALS

By Dr. C. H. Martin.

Diseases of the generative organs are practically confined to the animals kept for reproduction and the dairy. The breeding cow is subjected to all the disturbances attendant on the gradual enlargement of the womb, the diversion of a large quantity of blood to its walls, the constant drain of nutrient materials of all kinds for the nourishment of the foetus, the risks attendant and consequences of abortion and parturition, the danger of infection from the bull, the risk of sympathetic disturbances, in cases of serious diseases of the organs, (but pre-eminently of the urinary organ), the derangement of the circulation and the nervous functions which attend on the sudden revulsion of a great quantity of blood from the walls of the contracting womb, into the body at large immediately after calving. In reviewing the diseases, therefore, we have to note first that they are almost exclusively restricted to the breeding animals, and second with the absolute difference of the organs in the male and female, we find two essentially distinct forms of disease.

While there are some cases of sterility in the male, the female is the one most liable to become barren, as she has to undergo a severe strain at all times; she no sooner gets rid of one calf than she is bred again. It is a wonder that she stands it half as well as she does.

From a careful observation in practice of seventeen years in a large milk district, I have determined, to my own satisfaction, that the majority of cases of sterility are due more to mechanical causes than any other, and in working along these lines have been very successful in getting results.

I found that by toning up parts, thereby assisting nature to make the necessary repair so that a healthy conception could take place, that the majority of cases responded readily, and in nearly every case the cow became pregnant after the first service.

In order to do this it was necessary to devise some remedy that would act as a tonic to the weakened parts, and after careful study and a great deal of experimental work finally developed the formula now used, and with wonderful results.

Abortion.

Abortion is a disease of pregnancy affecting domestic animals, more especially the cow. While this article treats more fully of the latter, it also applies to mares, sheep and sows, the treatment for all being practically identical. There are two kinds of abortion—sporadic and contagious or infectious.

Sporadic abortion is due to some mechanical cause, such as injury from falls, hooking by other cattle, constitutional diseases, and fungoid growths on plants and grain.

Contagious or infectious abortion is due to a diseased condition of the mucous membranes of the vagina and uterus affecting the foetal membranes, and caused by the action of a germ or micro-organism.

Of the two types the latter is the more serious, and one of the most difficult diseases to overcome, costing the breeder and dairyman thousands of dollars every year.

In sporadic or non-contagious abortion, all that is necessary is to remove the cause and the disease will disappear.

Contagious or infectious abortion can be overcome only by persistent treatment combined with patience, and unless checked in the first stages, it may run for months before it is overcome.

There are various ways by which a herd may become infected. The infection may be brought in by a new cow bought from a herd which was infected, or by breeding to a bull that has served infected cows. It has also been known to be carried in the clothing of a farm hand who had worked in a place where the disease existed.

The disease may be in a herd for some time and may spread to a number of cows before it is discovered, and often it is not recognized until the cows begin to abort, one after the other. As the disease progresses, the cases of abortion become more frequent, and

sometimes will run through the entire herd.

The symptoms vary in different cases. In some cows they are quite pronounced. There appears a swelling of the vulva, with the mucous membranes more or less infected; the cow is dull and sluggish, separates herself from the herd, and may be seen frequently lying down and rising, or there may be uneasy movements of the hind feet and tail. When any of these symptoms appear it would be well to examine the cow for any discharge from the vagina. The discharge is of a viscid purulent nature and appears a few days before the cow aborts. There is also an enlarging of the udder, which becomes more pronounced as the cow approaches her normal time of calving.

In other cases these symptoms are lacking, especially so during the first two or three months of pregnancy, and unless the foetus is found the facts of abortion may escape notice. If a cow aborts in the first half of pregnancy the foetal membranes are usually expelled with the foetus; if after that period they are likely to be retained, and unless removed remain hanging from the vulva until decomposition sets in, resulting in septicaemia, or blood poison, with a fetid discharge from the uterus, leaving the cow in a weakened condition, and at times followed by the loss of the cow.

These cases require immediate attention, by first removing the afterbirth, then giving the cow a thorough treatment to clean up the genital organs and get them back to their normal condition.

The solution of abortion and sterility is this: Buy no cows from infected herds; do not allow the herd bull to serve cows that are infected; and last, but not least, take care of the cow after calving. Give her a thorough treatment that will heal up all the torn tissue, clean up the parts, stop all unhealthy discharges and bring the generative organs back to their normal condition.

There will then be fewer barren cows and contagious abortion will be a thing of the past.

SHOWS AND SALES POSTPONED.

Because of the prevalence of foot and mouth disease in many sections of the country, the International at Chicago and the American Royal at Kansas City have been called off for this year. All sales scheduled to be held during the weeks of these shows have also been canceled entirely or postponed indefinitely. This action was deemed best for the good of every one concerned in the live stock industry, as every effort is being made to stamp out the disease quickly and completely. The calling off of these great shows throws greater prominence upon the next great stock show, which will be that of the Panama-Pacific at San Francisco next fall.

MORE WILLOWMOOR AYRSHIRES FOR CALIFORNIA.

During the first week of November two choice registered Ayrshire bulls were secured by a Sonoma County, California, buyer from Willowmoor Farms, owned by J. W. Clise, Redmond, Wash. Both of these bulls are from heavy producing stock, one of them being out of Queechy, junior champion at A. Y. P. Exposition, and the other a grandson of one of the Willowmoor world's record cows. The number of Willowmoor Ayrshires now in California is considerable, and the extraordinary high quality and productive records of the herd combine to attract still more numerous buyers. Willowmoor Farms have an enviable reputation for the quality of bulls and foundation herds of females sent out, and it is to the credit of California dairymen that they are showing their appreciation of the good blood in this herd.

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1904. Hillcrest Hero.	1908. King of Greenwood.
1905. King Edward (also Grand Champion at World Fair, Portland.)	1909. King Lancaster.
1906. King Edward.	1910. King Lancaster.
1907. Showed nothing but young stock.	1911. King Lancaster.
	1912. Greenwood Knight 2nd.
	1913. Greenwood Knight.
	1914. Greenwood King.

All but two of these bulls were bred by us, and in the show ring met and defeated Eastern bred bulls that cost up to \$3000. A choice selection of bulls is now offered for this season. Come and see them or write for prices on what you need.

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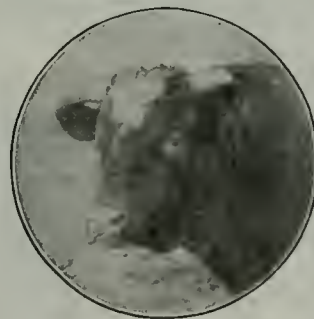
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For years one of the best known herds of registered Shorthorn cattle in the United States has been the Elmendorf herd at Lexington, Ky. Advices from the East are to the effect that the entire herd of over sixty head has been purchased by Kingsley Macomber for his Paicines Rancho in San Benito County, California. This will add quality to the large herd already at Paicines, and will immediately stamp this herd as one of the highest quality in the West.

FREE CHOLERA BOOKLET.

The Western Meat Company's Farm Advisory Department, San Francisco, Cal., will mail to any one, upon request, an interesting pamphlet on "Hog Cholera." This is written so that any one can understand the causes, symptoms and cure of this disease, and is of vital importance to any one who has hogs or is contemplating raising them. We advise every one to secure a copy of this pamphlet, which is free.

SHEEP

THE NATIONAL WOOL GROWERS' ASSOCIATION.

Protests Against Proposed Increase in Rates for Sanding Sheep Cars.

The following letter has been mailed to the State Railway Commission of California by the National Wool Growers' Association in reference to the application of the railroads of the state to increase the charge for sanding sheep cars:

State Railway Commission of California, San Francisco, California.

Gentlemen: I am advised that the railroads of your state have asked your commission for authority to increase the charge for sanding cars in the state of California to \$1.00 for single deck and \$2.00 for double-deck cars.

It seems to me this would be an imposition on the stockmen of your state. In the rates now in effect the railroads include the cost of sanding cars, and, if they are now to be allowed to make an increased charge for this service, it will be a duplication of the charge. The railroads contend that they have to haul their cars to sanding pits to be sanded. The fact is that cars are frequently loaded without being sanded at all, that is the old sand that was originally in them is used again. It also happens that cars are frequently sanded with cinders, a commodity available at many points. It is also true that sand is available at almost any shipping point or can be made available if the railroads so desire.

In the hearings before the Interstate Commerce Commission in 1 and S docket 409, the railroads testified as to the cost of sanding cars. Mr. Spens of the Burlington submitted exhibit 10 which shows the cost of sanding cars to be ten cents per deck.

The charge for sanding cars at the Fort Worth stock yards in Texas is 25 cents per car. In the case above referred to Mr. Blake of the Northern Pacific testified that the cost of sanding a single deck car was 25 cents and a double-deck car 40 cents. A long experience in connection with live stock shipments leads me to believe that the actual cost to the railroads of sanding cars is so small that no additional charge could be made for it in the tariffs with justice to shippers.

The sheepmen of California are already discriminated against by the Southern Pacific Railroad more than are the sheepmen of any other state. In California your sheep are handled in single decks on which the rate is about 30 per cent higher than it would be for the transportation of twice the number of sheep in double decks. So that in the end your sheepmen are already paying at least 30 per cent more than they ought to pay on all sheep that move in that state.

It is the purpose of the National Wool Growers' Association at some future time to bring an action before your commission for a reduction of these sheep rates, and at the present time we desire to oppose any increase in the charge for sanding cars in the state of California.

Very respectfully yours,
S. W. McCURE,
Secretary National Wool Growers' Association, Salt Lake City, Utah.

AZOTURIA, A COLD-WEATHER DISEASE OF HORSES.

With the approach of cold weather horse owners should guard against azoturia, which occurs almost invariably in well conditioned animals and claims many victims, especially during the winter season.

Various local names have been given to this disease, among which may be mentioned "lumbago," "spinal meningitis" and "black water." The two former terms have been applied owing to the hard and swollen condition of the muscles of the loins and croup and the loss of control of the hind parts commonly observed in these cases, and the latter name is descriptive of the urine, which is usually of a dark coffee color.

While azoturia may occur at any season of the year, it is but seldom observed during the warm weather of summer. It usually appears in highly

fed, well-nourished animals which, though accustomed to regular work, have remained idle for one or more days without a corresponding reduction in the rations.

As a rule the animal is attacked suddenly soon after leaving the stable in apparently perfect condition. The attack may occur after five or ten minutes' driving or, in some cases, several hours after the horse has left the stable.

Among the first symptoms are a staggering of the hind parts, knuckling at the pasterns, and profuse perspiration. In spite of such spasms in muscles of the hind parts the horse attempts to go on until he soon falls helplessly. Usually there are efforts to rise, but as a rule the animal is unable to stand even should he regain his feet, and it becomes necessary to remove him to the stable on a wagon, sled or drag.

Horses attacked with azoturia should be immediately freed from the wagon and harness and be provided with ample straw or other bedding to protect them from injury incidental to the struggle to regain their feet. Especial care must be taken to prevent beating of the head upon the ground, and if the patient is very restless a strong man should place his knees upon the animal's neck and hold the head firmly upon the ground. Throw a warm blanket over the prostrate horse and arrange immediately for his removal to a stable, where a commodious and well bedded box stall should be provided, or, if such is not available, the barn floor or a comfortable shed can be utilized.

In the meantime a qualified veterinarian should be summoned, azoturia being a disease which requires skillful treatment and careful nursing. Until the horse is able to stand it will be necessary to pass a catheter and draw the urine at least twice a day, and also, as item of nursing, to turn the animal from side to side at frequent intervals, in order to avoid development of bed sores. Both treatment and nursing are best carried out under direction of a skilled veterinarian who is equipped with required instruments and can apply treatment as indicated in each individual case.

Various theories have been advanced in explanation of the true cause and nature of azoturia. A majority of investigators, however, are inclined to the belief that it is an auto-intoxication. The fact that development of the disease is favored by rich feeding and a period of idleness tends to lend weight to such hypothesis. For practical purposes, however, it is sufficient for the owner of good horses to know that the disease may be prevented with the greatest certainty by reducing the ration of grain when the horses are not working and by exercising his horses daily.

VALUABLE BOOK OF BARN PLANS.

We are in receipt of a copy of "Louden Barn Plans," a beautifully printed book of 96 pages, published by Loudon Machinery Company, Fairfield, Ia. This book was originally intended to sell at \$1 per copy, but after publication the Loudon Company decided to distribute it free of charge to all stock farmers interested in barn, and hog house plans. This book shows a great variety of plans suitable for various conditions and different sized herds, and should be a valuable aid to any one contemplating the building of modern barns or hog houses.



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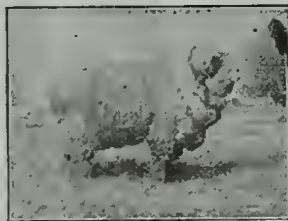
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First Prize Ewe Lamb at Omaha.

THE DAIRY

ANOTHER VIEW OF DAIRY RECORD COMPARISONS

There appeared in the October issue of The Live Stock and Dairy Journal an article by Mr. Harold McAlister entitled "Dairy Record Comparisons." In the first paragraph of this article he states "Which is the best breed of cattle is a question that has grown to paramount importance in this day of high feed and costly living."

I have read Mr. McAlister's article through carefully, and find that, after referring to this vital question in his opening paragraph, he never again refers to what is implied in his text, namely, the question of what breed returns the greatest amount of butter fat for the amount of high-priced feed consumed and the amount of costly labor involved. Nowhere in his article is the subject of economical production of butterfat referred to. It is the economical production that the business dairyman is in search of. For which is the more profitable, the cow that produces 900 pounds of butterfat worth 30c a pound and eats \$150 worth of feed, making a profit of \$120; or, the cow that makes 800 pounds of butterfat, consuming \$100 worth of feed, making a profit of \$140? The practical working dairyman depends on the net profit left out of his creamery check to pay his interest, taxes, wages and grocery bill.

Reference is made to two cows in the herd of the Wisconsin Agricultural College—Johanna, a Holstein, and Double Time, a Jersey. It is stated that Johanna averaged for five years 480 pounds of fat, while Double Time averaged 459 pounds. I have no data on the work of this herd for that length of time; but have recently received a bulletin from the Wisconsin station in which the work of the herd for one year is given. A detailed report of this year's work of these two cows shows that for the year Johanna made 578 pounds of fat, got credit for \$31.13 worth of skim milk, ate \$76.95 worth of feed, made a net profit of \$127.61. Double Time made 559 pounds of fat, got credit for \$21.45 worth of skim milk, ate \$59.81 worth of feed, made a net profit of \$129.50. Which was the better performance from the standpoint of the practical dairyman, the cow that made the most net profit, or the cow that made the highest record and ate the most feed?

Mr. McAlister also makes reference to the dairy contest at the Pan-American Exposition. He says the five Jerseys made 1234 pounds of fat, the five Guernseys 1248 pounds and the five Holsteins 1275 pounds. But he does not say that in net profits in butter production the Holsteins made \$210, the Jerseys \$225 and the Guernseys \$230. The complete detailed report of this test does say so.

He further states that the Bureau of Animal Industry of the United States Department of Agriculture, in its test reports, states that the Holstein breed averages 1.61 pounds of fat per day; the Jersey 1.26; the Guernsey 1.41; the Ayrshire 1.07, etc. I thought it strange that, if such an important and extensive test of the breeds as this would necessarily have to be to enable the department to speak with authority on the subject, had ever been made, I had never heard of it. So I wrote the department for information on the subject. I received a reply, signed by W. K. Brainard, Dairy Husbandman, which states as follows: "We do not believe that this department has ever attempted to state the average production of each of the dairy breeds. It is probable that in some specific experiment conducted by this department results of the nature you quote have been recorded, but we do not know of any investigation of this nature on a large enough scale to warrant an absolute statement of the relative production of the different breeds, either as to amounts or economy."

In his zeal to enlighten the prospective dairyman as to the breed of cows best suited to turn high-priced feed into butterfat, Mr. McAlister overlooked the great dairy contest held at the World's Fair at Chicago in 1893. His reason, I presume, was that the Holstein breed failed to take part. The Guernseys, Jerseys and Shorthorns, 25 cows of each breed, participated. In these two tests, one for 15 days for the economical production of cheese, and the other of 90

in her stanchion in a row of 19 cows days for the economical production of butter, the results were as follows: In the cheese test, the four highest cows were Jerseys, the fifth a Shorthorn. Of the 25 cows standing highest for net profit, 14 were Jerseys, 4 were Shorthorns, 7 were Guernseys. Of the 75 cows in this test, the lowest Jersey stood in fifty-third place. In the 90-day butter contest the Jerseys gave the most milk, made the most butterfat and the greatest amount of total solids.

The dairy cow demonstration at the St. Louis Exposition in 1904 is the greatest public test of dairy cows of which the world has any history. A committee composed of men of national reputation had charge of this test, Prof. Farrington of the Wisconsin Agricultural College acting as general manager. In this test were entered four breeds, the Brown Swiss, Holstein, Jersey and Shorthorn, the Guernseys failing to take part. To give the searching dairyman most valuable information by quoting the results of this greatest of all dairy demonstrations was Mr. McAlister's golden opportunity. He refers to this most important test by simply saying that the Holstein cow Shady Brook Gerben led all other breeds in amount of butter produced at the St. Louis Exposition. Then he side-steps, without even telling half the story. The Holsteins, Jerseys and Brown Swiss competed in Class A, a test for the economic production of butter; in Class B these three breeds and the Shorthorns competed for the economical production of milk for all purposes relating to dairying. In Class B each cow was credited with the amount of butterfat she produced at 30c per pound and the milk solids not fat produced at 3c per pound. Both tests were for 120 days.

In Class A for butter production the Holstein, Shady Brook Gerben, is credited with 330.36 pounds of butter. The Jersey cow, Loretta D., is credited with 330.03 pounds of butter. But as to the standing of the cows in economical production, or net profit, Shady Brook Gerben stood in fifth place instead of first, Loretta D. being first. The first four cows were Jerseys. Of the first 15 cows, 14 were Jerseys. Of the 20 cows standing highest in this class, 17 were Jerseys and 3 were Holsteins. The highest Brown Swiss stood thirty-third in the list. The lowest Jersey stood thirty-fifth. The two lowest cows in the test were Holsteins.

In Class B for economical production of milk for all dairy purposes, the Jersey cow, Loretta D., stood first, making a net profit of \$67.74, the Holstein, Shady Brook Gerben, standing second with a net profit of \$66.82. The second highest Holstein stood in twelfth place. Thirteen of the fifteen cows were Jerseys and 19 of the 25 highest cows. The highest Shorthorn stood twenty-seventh in order of net profit; the highest Brown Swiss thirty-second. The lowest Jersey stood in fortieth place; the lowest Holstein in fifty-second place, in the list of 70 cows contesting for economical production of milk for all dairy purposes.

The study of this St. Louis dairy demonstration is well worth any dairyman's time. It carries a fund of information relative to feeding coupled with economical production.

Mr. McAlister has consumed considerable space in giving tables of the different records of tested cows of the different breeds, but nothing is said as to amount of grain fed in producing these highest records, nor of the high-priced labor involved in feeding and milking the high-record Holstein cows four times daily for a good part of their period and three times daily for the rest of the yearly test.

In touching on this subject I should like to call attention to the yearly record of 993 pounds of fat made by the Jersey cow Springfield Owl's Eva, contained in one of his tables. In my opinion this cow has made the greatest yearly dairy record of any cow yet tested. Practically all the great cows making yearly records have been fed and milked at least three times daily, and some of them four times. Jerseys are allowed but three milkings daily. Springfield Owl's Eva was milked but twice daily throughout the year, stood

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ALTA VISTA HERD

OF REGISTERED

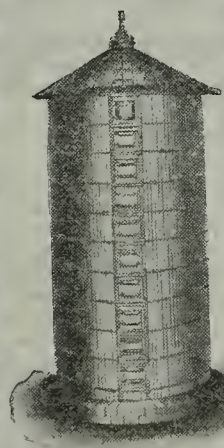
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Owned by Estate of Chas. G. Lathrop, Stanford University, Cal. Offers for sale a number of mature cows, some of them imported, bred and unborn heifers, and some choice bulls. A number of the heifers are bred to Violet's Pride of Iowa, whose grand dam has an A. R. record of 912 pounds butter fat in one year. Inquiry or inspection invited.

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in a barn containing 40 cows in the working herd at Meridale Farm; had no special care in any way; was fed by a man who had no expert knowledge of feeding. Her test was supervised by the New York Agricultural College and 96 different tests were made of her milk by 15 different testers during the year. She was fed 2880 pounds of grain, an average of less than 8 pounds daily. Was not started on test with the intention or expectation of making a high record. I do not believe that any other 900-pound cow has approached her performance as a practical dairy worker.

In Mr. McAllister's article tables are given showing that there have been made 1102 yearly records by Holstein cows, 3047 by Guernseys, 2720 by Jer-

seys, giving the averages of each breed. He neglects to say that the Holstein breeders still cling tenaciously to the 7 and 30-day tests for the largest percentage of their test work, where the special preparation of a cow for a considerable time before freshening counts for so much in the first 30 days of her lactation; and they make their yearly tests with their great cows that they feel sure are their most persistent workers, testing but a small percentage of their test cows for a yearly period. With the Guernsey and Jersey breeders the reverse is now the case. There is now but a small percentage of 7 and 30-day testing done, Jersey breeders believing that the yearly test is the true indication of value. In many herds every animal is officially tested for yearly work, whether she is a specially persistent worker or not. It is easy to see, under these different methods, why one breed can attain such a high average for yearly work where the relatively inferior cows are not tested.

GUY H. MILLER.

DAIRY CATTLE AT ARIZONA STATE FAIR.

The changes which have been wrought in Arizona agriculture were strikingly exemplified in the aspect of the 1914 State Fair at Phoenix. The waters from the great irrigation projects in Arizona, chief of which is the Salt River project, have transformed hundreds of thousands of acres of almost unproductive land into great fields of alfalfa, grain and corn that will rank with the best sections of the nation. With plenty of forage it was inevitable that the dairy cow should take possession of a great portion of Arizona's irrigated lands. The dairy cattle show at Phoenix this year was an excellent indication of the numbers and great quality of dairy animals that have been brought into the State during the past few years.

The awards were placed by Hugh Van Pelt, one of the editors of Kimball's Dairy Farmer, and recognized as one of the foremost American dairy cattle judges.

Holstein-Friesians ranked first as to numbers, and the large number of herds exhibited afforded keen competition. J. R. Bradshaw succeeded in carrying away the greatest number of firsts with his herd, but was close pressed by J. Stanley Howard. Frank Reed Sanders had a few exceptionally good ones, and carried home a number of firsts and seconds, none of his entries being placed below second.

In the Jersey classes W. M. Appleby & Sons' herd carried off the bulk of the firsts, and were closely pressed by the herd of W. W. Bradshaw, while W. H. Bukey brought out the senior grand champion bull.

Frank Reed Sanders made nearly a clean sweep of the Guernsey classes, Jesse F. Kelly being the only exhibitor to head him off.

The Macdonald and Crescent Dairy herds of Ayrshires made a good showing for the breed which enjoys widespread popularity in Arizona.

Frank Reed Sanders made a clean sweep of the Dutch Belted classes, while A. S. Burk did likewise in the Brown Swiss classes.

BREEDING TROUBLE.

The Live Stock and Dairy Journal: I am having trouble getting some of my cows with calf. Had a veterinarian examine the wombs of the cows, which he found to be closed and very rigid. He dilated, mechanically, the necks of the wombs as much as possible. Is this a diseased condition of the womb that is apt to affect other cows? Is there any treatment I can give in case these cows fail to conceive? H. I. S., Stanislaus County, California.

The condition is not infectious when the parts look normal. If it had been infectious your veterinarian would have told you. The application of a sponge tent smeared with solid extract of belladonna will keep the os open. Sodium bicarbonate douches, one ounce sodium to the gallon of water, will remove acid conditions. Massage of ovaries per rectum will break down cysts. Enzymol, one dram, placed in the womb when chronic conditions exist will correct chronic inflammation. A gelatin capsule is used to carry the medicine in. Enzymol is put up by The Fairchild Company, New York City.

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3 years 2,585 lbs. butter. WORLD'S RECORD.
1 year 30,452.6 lbs. milk. WORLD'S RECORD.
1 year 1,189 lbs. butter. WORLD'S RECORD.
(Carrying calf 5 months.)

Jr. 3 yr. old, 1 yr. 21,421 lbs. milk. WORLD'S RECORD.
(When made.)

Jr. 3 yr. old, 1 yr. 841 lbs. butter. WORLD'S RECORD.
(When made.)

Sr. 2 yr. old 285 days 14,837.2 lbs. milk. WORLD'S RECORD.
Sr. 2 yr. old 285 days 556.20 lbs. butter. WORLD'S RECORD.
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WORLD'S RECORD cows for 3 generations.

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THOROPIN.

The Live Stock and Dairy Journal: I have a bay mare 5 years old, weight about 1350, that has a small lump back of the right hock joint, on the inside. It is very hard when standing with full weight on, but disappears entirely when at rest. Mare will not flinch when lump is pressed hard with fingers, and it feels like muscle. Does not seem to hurt when walking or pulling load, but I think the leg is the least bit stiff when first leaving stall. Do not think she has been hurt. First noticed lump about two months ago.

Also what can I do for a two-year-old colt that has a spot about as big as a dollar on upper lip that is covered with small red warts, very small and close together. A. F. M., Sonoma County, California.

(1) Your bay mare has a thoropin coming. This is an excess of the synovial secretion of the parts. Mild applications of cerate of cantharides will often cause absorption. Apply the medicine every two weeks and grease the parts two days after application until lesion disappears. Keep the heel raised a little by heel calks on the shoes to remove strain on the tendon.

(2) Remove the warts by applications of glacial acetic acid. Vaseline the area around them. Use a glass rod to apply the acid and be very careful in its application, using only a very small quantity.

NEW RECORD THREE-YEAR-OLD HOLSTEIN.

The senior three-year-old Holstein-Friesian cow, Duchess Hengerveld Korn-dyke, owned by Embagaard Dairy, Michigan, has completed a year of semi-official test with a production of 903.38 pounds butter fat, equal to 1129.2 pounds butter, from 22897 pounds milk. This gives the Michigan cow the honor of being the world's champion in her class, as she exceeded the production of the former title holder, Queen Juliana Dirkje, by the very wide margin of an even 86 pounds of fat.

EDAM CHEESE IS A PROFITABLE DAIRY PRODUCT.

The Live Stock and Dairy Journal: I read with a great deal of interest the article entitled, "American Cheeses Should Be Made Popular," in your November issue. I want to add a word about the making of Edam cheese in particular, as I have had considerable experience in making this cheese. I am a Hollander, and for fifteen years made high-grade, fancy Edam cheese successfully in Holland. After coming to the United States I tried the making of Edam, and at first was very successful, the cheese selling like hot cakes. But soon I had to stop, on account of the milk coming in that was too bad for the making of fancy cheese.

There is no reason why Edam cheese can not be made good at home if farmers will furnish the proper milk. I know that when I look after a dairy herd myself I have the making of Edam cheese pretty well under control, but as soon as I get several batches of milk from different farms I can not make Edam with so much success, on account of too much poor milk in the mixture.

In case there is any dairyman having 20 milch cows or more, who wants to do his own independent business, I can see nothing more successful than the making of fancy cheese. The expense is not high, and it will give better return than the selling of butter fat. I am willing to help any one who wants to try this.

RICHARD MUS.

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Talk to the neighbors about buying a really high-class dairy bull. Even if they will not go in on the buy they may be willing to pay service fees that will justify a good bull in your neighborhood.

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WATERLOO DAIRY CATTLE CONGRESS

(By Special Representative of the Live Stock and Dairy Journal.)

For 38 years the Iowa State Dairy Association has been meeting regularly in annual sessions. This means that on 38 consecutive occasions the men who are most interested in the production and manufacture of dairy products have met for the purpose of comparing notes and studying problems that confront

them from time to time in carrying out their work. In the past the meeting of the dairy association has been very largely a matter of the study of the manufacturing end of the industry. Butter makers and authorities on subjects of this kind, creamerymen and those who are in the market to equip creameries have predominated, but during the past five years there has been a change.

This change has been co-incidental with the progress that has been made along the productive line of dairying. The time was when the butter of Iowa was made from cows that made over half of their profit from the veal calves that were sold. I speak advisably when I say this for it means that the cows were kept practically at a loss so far as the milk and butter fat were concerned. The idea on the part of the farmer was simply to take what he could get from his cows, he kept them as a matter of course, because he needed the calves and there was a tremendous demand for steers and feeders and naturally the farmer sought to supply that demand.

During the past five years the Dairy Cattle Congress has been one of the factors that has helped very materially in bringing about the change.

The people of this country have come to a realization of the fact that the farmer who crops his land year after year is robbing much of the fertility from the soil and the only way that it can be replaced economically is through the maintenance of a dairy herd and by selling the product of the farm in the cream can or upon the hoof, preferably in the cream can every time.

Five years ago the members of the State Dairy Association, or rather just a few of them, a little handful at Waterloo, Iowa, conceived the idea of putting on the dairy show in connection with the convention. The first show was a very meager affair, but it was a forerunner of the success that is crowning the efforts of the association at the present time. The show that just closed this year, the fifth in its series, is an eloquent testimonial to the fore-sightedness of the men who conceived the idea a few years ago. This show is attractive from both the standpoint of manufacturer and the producer. The interests of the creamery men were not overlooked. The program was carried on as usual, but in addition the Dairy Cattle Congress completely overshadowed the old-fashioned dairy convention and association. They have erected an exhibit hall about 200 feet square provided for the purpose of showing the various kinds of machinery and equipment necessary not only for the manufacture, but in the production of butter fat and milk. All kinds of barn equipment, feed, silos, separators, milking machines and in fact everything that goes for the completion of an all-around dairy plant was to be seen here in this exhibit. The machinery was shown in actual motion and the people who passed through the aisles were pleased and instructed and many orders were the result of this great show.

Naturally, however, the interest of the event was centered in the dairy cattle. Here were gathered some of the greatest herds to be found anywhere in the country. Exhibitors came from the west, from the north and from the east. This year there was no herd from a farther point to the west of us than Minnesota, but in previous years cattle have come from Washington and Oregon. Two entries were made from Kentucky and in previous years they have come not only from this state but from Texas. On the east entries came from Connecticut and from New York state and on the north from Canada and from various points intervening.

On the whole there were nearly 600 cattle shown and in every case they were the cream of the show circuits of the year, not just simply the cattle that are picked up and brought in to fill the stalls.

The Iowa Dairy Cattle Show fits in very nicely with the course of every show man. It comes directly after the state fairs close and the week preceding the National Dairy Show so that it gives the professional exhibitor an opportunity to gather his cattle in a convenient place and try once more for a few of the honors and a few of the shekles that help the pride and the pocket book at the same time.

Five breeds were shown this year. The Brown Swiss were entered in addition

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Riv. Sadle De Kol Burke.....	28,826.4	1085.13
Aralia De Kol.....	28,090.0	1142.32
Average	27,369.0	3416.45
	29,123.0	1138.81

Each have records for two consecutive years above 50,000 pounds. The first 28,000-lb. cow, the only cow with a 100-lb. daily average for six months, and the only 30,000-lb. cow, all members of this herd.

Six cows in the herd have made over 1000 pounds of butter each in 365 days, their average being 25,120.6 pounds milk and 1073.14 pounds butter. Ten heifers with first calf average 15,729 pounds milk and 646 pounds butter in one year. The yearly records of seventy cows in the herd, many of which are under mature age, average above 700 pounds butter.

The herd contains seven 30-lb. cows, thirty cows above 25 lbs. and 130 officially tested cows and heifers that average over 20 lbs. butter in seven days.

Sons of these cows by sires carrying the blood of the breed's most prepotent families are available at reasonable prices.

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We offer for sale a beautiful 17 months old son of King Segls Pontiac Emperor, out of Laura Netherland Gerben 2d, 28.44 lbs. butter in 7 days and 781.09 lbs. in a year, as a 4-year-old. She is a show cow, and has a 30-lb. sister and a 17-lb. Jr. 2-year-old daughter now on yearly test.

The fact that we have a large number of cows under official and semi-official yearly test at all times, Mr. Breeder, is an item which you should not overlook when purchasing a herd sire, as you are sure to benefit by what we do in the future.

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Holstein-Friesian Cattle

and O. I. C. SWINE

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Copa De Oro Herd

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tion to the four dairy breeds that have been shown before. The Brown Swiss cattle are rapidly coming into prominence as a dairy breed. The enthusiasts have avowed their intention of coming out as a dairy breed exclusively and they have established advanced registry work so that they are really making some commendable showing.

From the dairy standpoint, that is from dairy form and conformation, the Brown Swiss cows are making very rapid progress and a number of individuals shown at the Waterloo show were certainly a credit to any dairy show or breed. Two herds were exhibited by J. P. Allyn of Delavan, Wis., and H. W. Ayres of Honey Creek, Wis., and the awards were made by Will Forbes of the Department of Agriculture, Washington, D. C. Mr. Ayres was a fortunate exhibitor, but Mr. Allyn took the majority of the premiums, for his cattle seem to show a little better finish and they were certainly very high-class individuals.

In the Ayrshire classes entries were made by Barclay Farms, Rosemont, Pa., Adam Seitz, Waukesha, Wis., and J. F. Converse, Woodville, N. Y., and the awards were made by Prof. Kildee. The outstanding bull in the estimation of many of those at the ring side was Imp. Bargenock Gay Cavalier, but he was given second honors in favor of Hobland Innellen, the bull shown by the Barclay Farms. This is the second time this bull has won over Gay Cavalier. While at first the decision seemed doubtful the judge showed the very best of criticism in making the awards as he did. This bull was made grand champion as well as first prize in his class.

In the cow class Imp. Kilnford Bell 3d was the outstanding winner. She cannot be beat it would seem in any dairy show. She was pronounced the most perfect dairy individual at the National Dairy Show in 1913 and she is entitled to the distinction. Her individuality and her type combined with that of the herd bull, Gay Cavalier, has impressed upon Mr. Seitz' entire string of cattle a wonderful individuality.

The Guernseys were shown by A. W. and F. E. Fox, Waukesha, Wis.; Wilcox & Stubbs, Des Moines, Ia.; Chas. L. Hill, Rosendale, Wis.; W. W. Marsh, Waterloo, Ia.; Henry Howe, Bedford Hills, N. Y.; Frank Reed Sanders, Mesa, Ariz.; M. H. Tichenor, Oconomowoc, Wis., and were judged by Professor Kildee of the Iowa Agricultural College.

In the bull class Hayes Cherub 2d, Mr. Marsh's wonderful English show bull, was the unquestioned winner. This has been the class in which he has stood throughout the entire show circuit. In fact, it is doubtful if he can be beaten anywhere, but he is taking just one more chance at the National Dairy Show in Chicago. Here he will come in contact with one of the greatest herds that have been developed in this country. It

is the herd owned by F. Lathrop Ames of Massachusetts.

In the cow class Deanie 16th won first prize, senior and grand champion. She is also owned by Mr. Marsh, and she is another of his English importations. She is entitled to the distinction, although she had pretty keen competition, for there were other cows in the same group that have been champions in many shows this year.

The Jerseys were judged by Thompson Weber, and shown by John F. Boyd, Rushville, Ind.; W. S. Dixon, Brandon, Wis.; Nelle Fabyan, Geneva, Ill.; Robt. J. Fleming, Toronto, Canada; Kingston Bros, Avon, Ill.; Francis K. Prescott, Rockville, Conn.; W. R. Spann, Shelbyville, Ky.

The first prize and grand champion bull was Fairy's Noble Jolly, who was entered from Toronto by his breeder, Mr. Fleming. He is a wonderful individual, though not quite as long as some of the other bulls in the ring, but he carries a great barrel, and he has the remarkable quality and dairy conformation.

In the cow class the first honors went to Princess Anolinda, shown by Mr. Prescott of Connecticut. This was a beautiful cow, and she outclassed Grey Portia, who was the champion at the Iowa State Fair, and was shown by Nelle Fabyan. This is pretty good evidence that the champion at the Dairy Show was a wonderful individual, for Grey Portia is an exceedingly handsome young cow.

The Holsteins were judged by W. J. Gillette, who is famous as having produced the great cow Colantha 4th's Johanna. Mr. Gillette believes in production as well as type, and his awards were well received by the show men in general.

The cattle that were brought before him were owned and shown by Hamer Bros., Waterloo, Ia.; Iowana Farms, Davenport, Ia.; Nathan Dickinson, Lake Geneva, Wis.; F. L. Stone, Benson, Minn.; McKay Bros., Waterloo, Ia.; E. C. Schroeder, Moorhead, Minn.; R. E. Faeger, Algonquin, Ill.

The first prize bull was Paul Calamo Korndyke, an individual that has been outstanding for several years. He was the grand champion at the National Dairy Show in 1913, and he will fight for similar honors there again this year.

The champion cow was Lucy Wayne, also owned by Mr. Haeger, and she was fighting against heavy competition, for there were several very fine individuals in this class. She was also made the grand champion of the breed.

The Holsteins were perhaps not as numerous as they have been in previous years, but they made up in quality, and it is interesting to note that a number of the individuals that were shown were advanced registry stock or the produce of advanced registry dams. It is a mighty interesting thing to see that some of the exhibitors are in a position to show stock that can make records.

ANOTHER WORLD'S CHAMPION IN MORRIS HERD

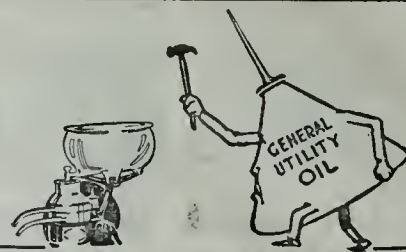
The expected has come to pass, and Tilly Alcartra, the great Holstein-Friesian cow owned by A. W. Morris & Sons Corporation, Woodland, Cal., has broken the world's record for milk production, for the one year period under semi-official test. She completed her year on November 13, 1914, and made the phenomenal record of 30,452.6 pounds of milk, containing 951.2 pounds of butter fat, equal to 1189 pounds of butter.

This performance gives the Morris herd a distinction that is unparalleled in Holstein-Friesian history. First of all, it means that the herd contains that long sought animal, the 30,000 pound dairy cow, and she is the only one of her kind on earth so far. Next, it gives the herd the honor of having developed three out of the six cows in the world that have records of over 28,000 pounds of milk in one year. And, further than that, it gives the Morris herd the distinction of having developed three world's record milk producers, whose average milk production for one year is over 29,000 pounds, an average not equaled by any other three cows from all the herds in the whole world.

The story of this latest achievement by the Morris people is one of consistent, constructive development, that had its inception in good judgment in selection, for Tilly Alcartra was not bred on the Morris ranch. She is one of ten daughters of the bull Alcartra Polkadot Corrector, that were bought up by the Morris people just a few years ago be-

fore their great test work was as far advanced as it is at present. A good round price was paid for these ten heifers, whose importance in the estimation of the Morris people was largely due to their own belief in the future of the daughters of Alcartra Polkadot Corrector. Their faith in that sire was founded largely upon an abiding faith in the transmitting qualities of that great sire De Kol Burke, who appears close up on both sides of the pedigree of Alcartra Polkadot Corrector, and their judgment that this bull carried further producing quality from his dam Alcartra Polkadot. Their judgment has been fully vindicated by Tilly Alcartra in the largest way, and in further way by the performance of her nine half sisters in the Morris herd.

The only thing approaching a hitch in the whole career of Tilly Alcartra happened when she was a two year old. She freshened as a junior two and made the creditable 7-day official record of 490.4 pounds of milk, 17.39 pounds of butter. In this, her first lactation period, she gave evidence of persistent production when she made a 7-day A. R. O. record eight months after calving, of 362.1 pounds of milk, 14.35 pounds butter, the latter performance winning fourth prize from the Holstein-Friesian Association of America. Tilly also indicated large production in her first milking period, for in 285 days she made 14,837.2 pounds of milk and 556.2 pounds of butter. She was prevented



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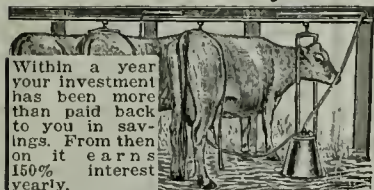
The Holsteins in this Sale have been sired by 28 different sires—each one a good one. There are Grandsons and Granddaughters of KING SEGIS, HENGERVELD DE KOL, SARCASTIC LAD, DE KOL 2D'S BUTTER BOY 3D, CONTEST COLANTHA, PONTIAC HENGERVELD PARTHENEIA, JOHANNA COLANTHA LAD, DUCHESS ORMSBY PIEBE BURKE, JESSIE MAIDA DE KOL BURKE and many other sires famous in Holstein history. Families that have been bred for generations for GREAT MILK AND BUTTER PRODUCTION. YOU START AT THE TOP when YOU BUY THIS KIND.

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Geo. A. Smith, Corcoran, Cal.

from finishing a full year's test by the fact that she had unfortunately been bred too early and was again due to calve. After calving, and without rest, she started in on test as a three year old. In this form her highest day's milk was 95.8 pounds, her best seven days was 513 pounds milk and 23.15 pounds butter, and she completed her year with a production of 21,421.3 pounds milk and 841.22 pounds of butter, which was a world's record for the class when

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made. In this test her 7-day record eight months after calving was 420 pounds of milk and 17.05 pounds of butter.

Starting in again after a short rest she began her last test period in the five year old class. In this form her highest day's milk was 109.9 pounds, her best seven days 715.4 pounds milk and 29.27 pounds butter, best thirty days 3,066.8 pounds milk and 122.71 pounds butter, best sixty days 6,052 pounds milk and 244.39 pounds butter, best 100 days 9,702.8 pounds milk and 396.53 pounds butter, while her grand total for the year has already been mentioned. It has often been said that large 7-day records may be influenced very largely by the condition of the cow at time of calving. While Tilly's 7-day record is not a world's record, it is noteworthy, and it is of interest to know that it was made 62 days after calving, while her best 30-day record was begun 40 days after calving. Also her persistence is somewhat emphasized by the fact that her best seven days, eight months or more after calving, began on the 346th day of her lactation period. As a combination of large production and persistency, Tilly Alcartra stands today without a known equal.

The writer has remarked frequently upon the physical characteristics of Tilly, as she is something of a marvel considering her world beating production. She is not an especially large cow, although she shows fair capacity, and has a great deal of show quality. Her greatest points of deception are found in her mammary system, particularly the udder. She carries a well-balanced, symmetrical udder, but its size is entirely misleading, for it is strikingly small to be associated with extraordinary production. Every one at all versed in the outward signs of heavy milk flow who has seen Tilly, has wondered where she finds room to store the immense quantities of milk that she yields.

She is of a particularly gentle and contented disposition. When strangers enter her stall, as hundreds did during the past year, she immediately proceeded to come around and get acquainted, and seemed to be quite partial to children, contrary to the attitude of most highly bred cows. Changes in milkers did not seem to disturb her, and during the year when her regular milker was otherwise engaged and she was given over to another man she showed no evidences of disturbance.

To produce her record breaking milk flow she consumed a less amount of feed than might be supposed, and the great bulk of it was such as can be either grown or procured on any dairy farm. Her grain ration was composed of equal parts of oats, barley and bran. Succulence was provided by dried beet pulp, corn silage and mangels, all of which she ate with relish. She also had an allowance of linseed oil meal throughout the entire test period, and a good allowance of alfalfa hay which was at times cut down and green alfalfa and green corn substituted.

An accurate account was kept of the amount and cost of feed which she consumed during the year as shown by the following table. In this the cost of oats, barley, bran, dried beet pulp and linseed oil meal have been averaged on the market prices throughout the year, hay is figured at 50c per ton above cost price and the average ration of hay is figured in during those short periods when green alfalfa and green corn were substituted. Mangels are figured at \$2.50 per ton, which allows a liberal margin over cost of production, and corn silage is figured at \$2.00 per ton, which is 50c per ton over the actual cost of production on the Morris ranch.

Following is the bill of fare and costs:

1828 lbs. oats at \$30 per ton.....	\$27.42
1828 lbs. barley at \$23 per ton.....	21.02
1828 lbs. bran at \$27.50 per ton.....	25.94
1208 lbs. linseed oil meal at \$34 per ton.....	20.54
581½ lbs. dried beet pulp at \$22 per ton.....	7.50
3226 lbs. corn silage at \$2 per ton.....	3.23
10,122 lbs. hay at \$5 per ton.....	25.31
15,140 lbs. mangels at \$2.50 per ton.....	18.92

Total cost of feed.....\$149.88

Over this cost of feed the value of Tilly's milk alone for the year shows a substantial profit. Her year's production of 30,452.5 pounds equals 14,190.91 quarts, and based upon a value of 4c per quart it was worth \$567.63, or \$417.75 above the cost of feed.

The following table shows the great record of Tilly by months, and it is par-

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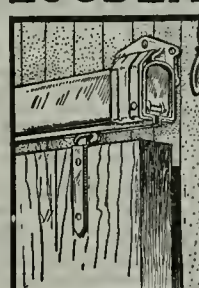
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ticularly noteworthy because of its uniformity, and the way production was maintained right up to the finish, when she was still yielding over 60 pounds of milk per day.

Month.	Lbs. milk.	Lbs. fat.	Average milk daily.
November, 1913 (17 days)	1495.7	54.031	84.04
December	3190.2	101.129	102.91
January, 1914	3070.3	98.657	99.04
February	2572.7	84.177	91.88
March	2562.0	74.654	82.66
April	2504.2	80.991	86.81
May	2655.1	82.352	85.97
June	2441.9	77.897	81.40
July	2355.7	69.344	76.35
August	2347.2	56.895	75.72
September	2175.8	56.175	72.56
October	2124.8	67.755	68.55
November, 13 days	833.8	27.394	64.13
Total	30452.6	951.202	

I have already mentioned the fact that Tilly Alcartra is one of a group of ten daughters of Alcartra Polkadot Corrector that are now in the Morris herd. In view of Tilly's spectacular performance the limelight is thrown upon the other nine, and while they are all young cows, they all have made creditable showings up to date, with indications that at least one or two among them will later range among the top notchers of the breed. The following is a brief outline of their performances to date: Arcula Alcartra has an A. R. O. 7-day record of 26.72 pounds of butter and at the time of this writing she is 221 days along on yearly test and has already 495 pounds of butter to her credit. Genesee Beauty 2nd has a 7-day A. R. O. record of 25.02 pounds of butter, and last year in three year old form made 18,055.3 pounds milk and 732.88

pounds butter. Inka Tritomia Alcartra had an A. R. O. 7-day record of 17.17 pounds butter and a semi-official yearly record of 14,519.3 pounds milk and 486.84 pounds butter as a two year old. She has now completed another year's test as a three year old and made a very substantial increase to 19,043.5 pounds milk and 796.16 pounds butter. Leda Hartog Tiettie Alcartra has an A. R. O. 7-day record of 23.78 pounds butter, and is now on semi-official test for a year. She has up to the present time 727 pounds of butter to her credit, and still has two and a half months to go. Leda Hengerveld De Koi 4th has an A. R. O. 7-day record of 22.85 pounds butter. Moille Kuperus Alcartra, a three year old, has an A. R. O. 7-day record of 19.50 pounds butter and a yearly semi-official record of 15,521.9 pounds milk and 686.61 pounds butter. Nutula Queen Alcartra has an A. R. O. 7-day record of 20.13 pounds butter and a semi-official yearly record of 13,987.8 pounds of milk and 549.33 pounds butter. We No Alcartra has an A. R. O. 7-day record of 27.25 pounds butter, and is making a creditable semi-official record at the present time. It would have been an exceptional one except for severe horn trouble which pulled her down badly for quite a long spell.

In view of their youth and results already achieved, it seems reasonable to expect these ten Alcartra heifers to make still more Holstein history in the Morris herd, and as the real foundation cow of the family, Alcartra Polkadot, is now in one of the most famous herds in the East, where official test work of the highest order is being carried on, the Alcartra family promises well to take a most important place in the annals of the Holstein-Friesian breed.

ALFALFA AND ABORTION

By J. M. Bomberger.

Does alfalfa cause abortion and failure to breed in dairy cows? We have no conclusive data, either yes or no. The one thing we do know is that there is enough abortion and failure to breed in the alfalfa districts to cause very serious losses to the dairymen.

While we are short on authentic data, I will offer a few of my own observations and opinions of alfalfa and abortion.

We are authoritatively told that the direct causes of abortion are the contagious abortion germs, and injuries.

I believe that alfalfa, when improperly fed, may become an important indirect factor in causing abortion. I believe that there are very few large herds of cows where the contagious abortion germ is not present, even though it be more or less dormant in cows that have become immune, and in and about the sheath of the bull.

In my opinion, the strongest safeguard against abortion in cows is strong vitality in the cows and bull. Then it follows that whatever tends to lower the vitality of the cows may become an indirect cause of abortion. Alfalfa when fed alone is very apt to lower the vitality of dairy cows. The chief source of danger in feeding alfalfa alone lies in the excessive supply of protein in the alfalfa and the younger alfalfa is cut the higher the percentage of protein. In the first place, the overfeeding of protein causes the kidneys to be overworked in disposing of the large amount of nitrogen. Weakened kidneys fail to remove the uric acid from the blood, thus causing the cows to become rheumatic, lame and low in general vitality.

and as the kidneys and urinal organs are in close sympathetic relation with the organs of reproduction, the vitality of the organs of reproduction is usually first affected. Right here lies the probable cause of the many cases of failure to breed in alfalfa-fed cows that have never really aborted. The exclusively alfalfa-fed cow, with her weakened kidneys, waste laden blood and lowered vitality can offer only a weak resistance to the growth of the contagious abortion germs.

My experience leads me to believe that a cow properly fed and cared for and in perfect health is not at all apt to be affected by abortion germs, nor any other disease germs.

When I see how some herds of cows are fed and under what conditions they are kept I often wonder that there is not more abortion and disease than there is. Many herds are fed exclusively on early cut alfalfa until their kidneys are weakened and their blood foul with waste, and then kept outside in cold, frosty, foggy or rainy weather with only ice cold mud or manure slush to lie down in. A cow kept under such conditions can offer only the very weakest resistance to any abortion germs with which she may come in contact.

Alfalfa is such a splendid feed for dairy cows that its name should not be associated with abortion and, indeed, there is no necessity for it if alfalfa is fed as it should be. The fact that alfalfa is in itself so nearly a balanced ration is the main cause of its being so often improperly fed. If any other dairy feed were fed as exclusively as alfalfa the results would most likely be worse.

CALIFORNIA GUERNSEY CLUB.

Guernsey cattle breeders of California have formed themselves into an organization for the mutual benefit of themselves and the breed in the state. At the recent State Fair initial steps were taken and a committee was named to draft a form of organization to report the same at a meeting to be held at Modesto on October 17. This meeting took place as scheduled and after hearing the report of the committee the constitution and by-laws, as drafted by the committee, the same was adopted. The following officers were then elected. President, Wm. H. Saylor, San Francisco; vice-president, C. S. Rasmussen, Leleta; secretary treasurer, D. O. Brandt, Owensmouth. Three members to serve with the president and secretary as executive committee will be appointed in the near future.

The California Guernsey Club invites all persons interested in the breed to join the club and has provided that those who join will become life members by paying a comparatively small fee. There are now in the state quite a number of enthusiastic breeders and admirers of the Guernsey and the officers hope to build a strong body out of this material in time to participate in the big "doings" in Guernseys, and other breeds of live stock as well at the big exposition in 1915.

JERSEY TYPE

We have a few handsome, vigorous young bulls out of our best cows and sired by MERRY MAIDEN'S CONQUEST, a son of MERRY MAIDEN'S 3D SON, Grand Champion Jersey bull at St. Louis Exposition. By owning one of these bulls you can introduce into your herd the blood of one of the best bulls of the breed. Come and see our herd or write your needs. Prompt attention to correspondence.

B. & F. RANCH, F. O. FRAZIER, COVINA, CAL.

See and try a DE LAVAL Cream Separator

YOU can't afford to take any chances when buying a cream separator.

It is important, that you get a machine which will stand constant wear twice a day for many years to come.

It is important that you get a machine that will run easy and be easy to wash and clean.

It is vitally important that you get a machine which will save all of your cream instead of losing enough in a year to amount to more than its cost.

We know that if you see and try a De Laval, the chances are ten to one you will buy it. It's its own best salesman.

Any De Laval agent will be glad to set a machine up for you on your own place on trial, and if you want to keep it and it isn't convenient to pay for it now, we have an arrangement with our agents whereby you can buy it on easy terms so that it will actually save its cost while you are paying for it.



De Laval Dairy Supply Company

101 Drumm St.
San Francisco

1016 Western Ave.
Seattle

VENADERA HERD REGISTERED JERSEYS

Offers young bull calves whose dams and both grand dams are entered in the Register of Merit with good official yearly records.

Calves are sired by the Royally Bred prize-winning bulls, Altama Interest and Owl of Bellevue. Write

GUY H. MILLER

Route 3. Modesto, Cal.

JERSEYS Choice young steers of both sexes from R. M. dams. Inspection and correspondence invited.

W. J. HACKETT, Route 2, Ceres, Cal.

Rancho Santa Marguerita
REGISTERED JERSEYS
OFFICIALLY TESTED.

D. F. CONANT, Modesto, Cal.
R5, Box 64

Royal Jersey Herd

Herd headed by Gertie's Son, whose dam, three sisters and two daughters average over 843 lbs. of butter per year.

R. L. WALTZ, Hanford, Cal.

Jersey Queen Farm SAN JOSE, CAL.

Offer exceptionally well bred bulls, 4 to 20 months old, rich in blood of Stogis Pogis of Prospect, St. Pogis 5th, St. Lambert, Victor, Coomassie, and Golden Fern's Lad.

Can satisfy the most critical. Call or write.

CONSIGNMENT SALE

(Continued from page 2.)

tion for a high class breeding herd. J. G. Fakes bought only four head, but as the prices on the four ranged from \$500 to \$1000 per head, it is needless to say that he carried away a great deal of quality blood.

W. H. Smith also secured four head of outstanding cows, and has the beginning of another good Kings County Holstein herd.

It was only a few years ago that most of the consignors at this sale were just starting into the breeding business, and it is more than likely that some of the buyers at this sale will themselves be consignors at some time not far in the future. If they are, we can wish them nothing better than that their sales will be as satisfactory to both buyers and seller as was the Hanford sale.

Following is a complete list of buyers with names of individual animals, sex and price paid:

Charles Yoakum:	
Jetze Zwarthak Lady (cow).....	\$375.00
Countess Granada Maid (cow)....	450.00
Zampa Maud Muller (cow).....	600.00
Iona Ripple of Sunnyside (cow)....	400.00
Visalia Pocahontas (cow).....	275.00
Diana of Sunnyside (heifer).....	200.00
Precious Promise (cow).....	475.00
Fairy Tale Pontiac (cow).....	375.00
Prince Rafael Hengerveld (bull calf).....	100.00
Loretto Princess (cow).....	400.00
Annelda Beauty Zampa Second (cow).....	400.00
J. G. Fakes:	
Fidesea Goldstone Alcartra (heifer).....	\$500.00
Stratford Lazon De Kol (heifer)....	1,000.00
Alma Beauty (heifer).....	600.00
Girle De Kol (heifer).....	600.00
W. H. Ginn & Son:	
Fascination De Kol (cow).....	\$375.00
Pietertje Lass Pauline Johanna 3d (cow).....	350.00
Lady Amelia Kathleen (cow).....	425.00
Pearl Nephelie Clothilde (cow).....	400.00
Clara Vroona Perfection 3d (cow).....	400.00
Romeo Beauty Pietertje (cow).....	525.00
Flossie Cornucopia Johanna (cow).....	500.00
Shadeland De Kol Roeltje 2d (cow).....	500.00
Pauline of Bloom 2d (cow).....	375.00
Colantha Pauline Johanna De Kol (cow).....	400.00
Edith Mandel De Kol (cow).....	950.00
Eva Areturas Kathleen (cow).....	400.00
Wm. Harlon Smith:	
Unedea Corndyke Alma (cow).....	\$450.00
Maggie Drosky (cow).....	400.00
Aggie Mechilde Beets (cow).....	625.00
Romeo Grace De Kol (heifer).....	625.00
B. G. Comfort:	
Aagie Creamelle De Kol (cow).....	\$400.00
Imperial Aagie (cow).....	425.00
Aralla of Visalia (cow).....	375.00
Rouble De Kol Mabel (cow).....	475.00
Emory G. Singletary:	
Prince Gelache Walker 10th (bull calf).....	\$400.00
H. E. Vogel:	
Josephine De Kol Parthena (cow).....	\$425.00
Sadie Adiantum Beets (cow).....	475.00
Emperor Bergsma De Kol (bull calf).....	450.00
J. M. Christen:	
Comedia Soldene Hengerveld (cow).....	\$425.00
F. D. Ross:	
Orella of Sunnyside (heifer calf).....	\$300.00
Cream Cup Aggatha Teake (heifer).....	350.00
Colantha Juliana Belle (heifer)....	600.00
Queen Johanna 2d (cow).....	475.00
Jemmie Lea Hengerveld (heifer).....	250.00
Alma Goldstone Girle (heifer).....	500.00
Fidessa Peitertje (cow).....	425.00
Clark & Overland, Hanford, Cal.:	
Sir Segis Hengerveld De Kol (bull).....	\$125.00
J. Y. Oldham:	
Azubah Creamelle (cow).....	\$475.00
Niko Artis Lady 4th (cow).....	375.00
Alex Whalley:	
Black Diamond of Sunnyside (bull).....	\$100.00
Geo. A. Smith:	
Prince Juliana Walker (bull).....	\$900.00
T. J. Glickerson:	
Heifer calf.....	\$175.00
El D. Fay:	
Holland Magda Colantha (heifer).....	\$400.00
Comedia Hengerveld Pontiac (heifer).....	300.00
Olive Princess Hengerveld (heifer).....	325.00
Prima Donna of Sunnyside (heifer).....	325.00
R. E. Dixon:	
Copa De Oro Zampa (heifer).....	\$375.00
R. F. Schmelzer:	
Pontiac Topsy Wiegertje (bull calf).....	\$225.00
R. N. Hall:	
Zozo Colantha of Sunnyside (bull calf).....	\$200.00
Rosa Glenn Korndyke (cow).....	425.00
Annelda Beauty Zampa 2d (cow).....	475.00
Geo. C. Dorman:	
Conqueror of Sunnyside (bull).....	\$125.00
W. D. Trehwitt:	
Pomona of Sunnyside (heifer).....	\$225.00
Hewitt & Hewitt:	
Prince Juliana De Kol Walker (bull).....	\$1,000.00
Stow & Storm:	
Nudine Peitertje Dawn 2d (heifer).....	\$375.00
Lady Katie of Visalia (cow).....	375.00
Calamity Pauline Wayne De Kol (heifer).....	275.00
Mutual Artis Clothilde 2d (heifer).....	325.00
Dr. H. D. Hubbell:	
Marion Idlewild De Kol (cow).....	\$300.00
Matty of Visalia (cow).....	350.00
J. S. White:	
Blanche Estelle Peitertje De Kol (cow).....	\$400.00
J. Tus:	
Tecumseh Hengerveld Admiral (bull).....	\$175.00
J. W. Jones:	
Grace Fayne De Kol Jane (heifer).....	\$300.00
Laurita Fayne De Kol Jane (heifer).....	300.00
Madeline Zozo 2d (heifer).....	325.00
Whittier State School:	
Silver Gloss Poplar (cow).....	\$350.00
R. Nadeau:	
Lady Consuelo De Kol (cow).....	\$375.00
Madrigal Johanna Gerben (cow).....	450.00
F. M. Helm:	
Lorena Riverside Korndyke (bull calf).....	\$400.00
C. M. Blowers:	
Carmelita of Sunnyside (heifer).....	\$275.00
Meerschbaum of Sleepy Hollow (heifer).....	375.00
F. M. Barney:	
Duke Hengerveld Promise (bull calf).....	\$100.00
A. V. Taylor:	
Jetze of Oakwood Romeanna De Kol (bull).....	\$300.00
Lakeside Netherland Korndyke (bull).....	250.00
T. J. Gist:	
Bonny Spotfoot (cow).....	\$425.00
Astrologess Bonny Maid (cow).....	325.00
Contate Queen of the West (cow).....	425.00
Merry Maiden Pauline (cow).....	325.00
R. E. Jubelt:	
Lassie Calliope Cardinali (cow).....	\$325.00
Frank A. Andrews:	
Bull calf from Annelda Beauty Zampa 2d.....	\$50.00
A. Slotemaker:	
Mannie Idlewild De Kol (heifer).....	\$325.00
G. D. Ramsey:	
Bull calf.....	\$125.00
D. L. Lewis:	
Lady Lou of Sunnyside (heifer).....	\$225.00
T. G. Tompkins:	
Spotfoot Pontiac Hengerveld (heifer calf).....	\$225.00
Total, 95 head.....	\$36,800.00

ECONOMICAL PRODUCTION TESTS OF JERSEYS.

The California Jersey Breeders' Association has been responsible for a great deal of improvement in live stock conditions, both within and without their breed in California, and their latest idea is designed to fix more firmly the records of the Jersey for economical production of butter fat. To this end there is now being established a series of 7-day tests for economical butter fat records, the entries being divided into three classes, according to age. Class 1 will include all cows 4 years of age and over, Class 2 over 30 months and under 4 years, and Class 3 under 30 months. The prize in each class will be a \$50 cup or its equivalent in cash. As we go to press the entire plan has not been officially accepted by the association, but complete particulars may be had by addressing the secretary, J. E. Thorp, R. 6, Stockton, Cal.

JERSEY BREEDERS' FUTURITY No. 2

Entries are now being made for California Jersey Breeders' Futurity No. 2, and blanks can be obtained by applying to J. E. Thorp, secretary California Jersey Association, R. 6, Stockton, Cal.

What a Dairyland Farmer Says of

Dairyland FARMS

Chowchilla, October 30, 1914.

Messrs Stine & Kendrick,
San Francisco, California.

Gentlemen:

I came from Holland four years ago and located in Hanford, California, where I began farming. I had heard of the great Chowchilla Rancho, so when it was opened to settlement I made an investigation and decided to purchase. I bought 60 acres, and along with some of my countrymen, purchased in all a quarter section.

Water is king in Holland, so I suppose that was one thing that interested me in Dairyland. My first artesian well developed a fine flow at a depth of only 193 feet. I built an earthen reservoir which the well fills every night. In the morning I lift the flood gate and irrigate my land. My countrymen and myself sunk another artesian well getting a good flow at 200 feet and then we drilled two pump wells. One of them is only 68 feet deep and I have pumped it over a period of many hours and it has delivered about 1000 gallons a minute without lowering the water level beyond 20 feet.



Mr. Schoonderwoerd drinking from his Artesian Well

Dairyland Farms are the major portion of the great CHOWCHILLA RANCHO subdivided into 20 and 40-acre units. The Farms are about midway between Merced and Madera—in fact, in the center of the "San Joaquin Butter Belt."

Very truly yours,

M. J. Schoonderwoerd

Ten Years to Pay

Let the Crops do it

Prices About \$100 an Acre



Send the coupon—let us tell you more about the soil, water, climate and transportation facilities at Dairyland.

Cut Out.
Mail Today.

Stine & Kendrick, 23 Montgomery St., San Francisco
Gentlemen: Please send (without obligation to me) descriptive and illustrated literature on "Dairyland Farms." I am interested in the crops as checked below (X) and would like your special Bulletin on the subject.

Alfalfa	Melons	Figs
Dairying	Sweet Potatoes	Grapes
Hogs	Tomatoes	Peaches

Name _____

Town _____ State _____

Send me price and terms on _____ acres. LSDJ

STINE & KENDRICK

23 MONTGOMERY ST.

SAN FRANCISCO

THE SWINE HERD

THE HOG AND THE ORCHARD.

In reply to an inquiry concerning the use of the hog in the home orchard Professor W. H. Lawrence, horticulturist of the University of Arizona experiment station, replies:

Nearly every farmer in Arizona has a home orchard. Fruit trees of all varieties bear heavy crops except in localities where frosts and freezes kill the blossoms and young fruit. The quality is unusually good considering the care given the trees. The yield often-times exceeds the uses made on the farm. The only pest causing serious damage to the fruit is the codling moth which has found its way into nearly all the orchards. Since much of the fruit is wormy it cannot be sorted and sold on the market to an advantage or stored for later use on the farm. Under such conditions only a small portion is eaten out of hand or used for immediate culinary purposes. By far the greater portion remains in the field where it drops and decays. This fruit if properly cared for could be made into various products for use on the table throughout the year. The busy farmer and his family have not yet become accustomed to the practice of observing the development of the fruit nor of utilizing the by-products. While the utensils and materials needed for use in the preparation of by-products are not expensive, the farmer apparently hesitates because of lack of knowledge covering the prac-

tices so necessary to prepare a first-class product.

Fortunately, we have among the varieties of farm animals, one that is a veritable factory in its use in turning waste and by-products into a valuable commodity, at a low cost with practically no concern to the farmer. The hog is the animal that will do the work. A pair of small pigs may be purchased for a few dollars. A comfortable, clean portable house provided with good ventilation (the pig by nature is a clean animal and requires good care to secure the right results) may be built from waste lumber at little or no expense other than nails and a few hours of labor. A well-matured sow, at about one year of age, will produce a crop of pigs ready for the market in one year from the date of breeding. Small young sows produce five to seven pigs per litter, while larger and more mature ones average nine pigs. By growing food plants between the rows of trees to take the place of feeds the pigs will not only pick up and eat every wormy apple, but will pasture down Bermuda and Johnson grass and all forms of weeds, aiding materially in keeping the codling moth in check and at the same time keeping the soil in such condition as to admit of ease of tillage, besides adding a considerable quantity of fertilizer to the soil. It takes little or no effort to figure the value of the pig as a gleaner and scavenger in the orchard on the general farm. At the present prices for small pigs and for fresh and cured pork, there

is no animal that will do this work better and produce the returns for the money invested than the hog.

The foregoing statement relative to the use of the hog is of unusual interest since it comes from a specialist primarily interested in the production and uses of fruit as a food for man and points out a possible utilization of all low-grade stuff that will return to the producer a greater revenue than the customary uses made of the fruit.

THE PROPER TIME TO VACCINATE HOGS.

The various phases of the hog cholera question have been discussed pro and con, and I shall endeavor to set forth my ideas as to the proper time to vaccinate hogs. Discussing this from a practical standpoint, others may have different ideas on the subject, but actual field work done is the best guide.

The economic side is of great importance. The loss in the simultaneous method is practically one per cent, varying with conditions, housing, feeding, care, and existing sanitary conditions.

Immunity of the offspring from an immune mother exists until weaning time, and they are, therefore, practically safe from cholera until that time. The question is, how young can a pig be rendered permanently immune? It is my opinion that a pig five weeks old, that has had some range and is in good condition, can be immunized permanently by the double treatment of vaccinating.

In vaccinating pigs from non-immune mothers, it is advisable to use the single method till the pigs are past weaning time, and then use the double method.

Care in handling pregnant sows must be observed, as there is danger of abortion in the simultaneous method, especially in the second or third period of gestation.

After vaccinating pigs that are not weaned I would not advise weaning for at least two weeks, as the change of food may be detrimental at that period.

In conclusion, immunity ought to be conferred on pigs from six to eight weeks old, and this, in my opinion, is the proper time to vaccinate.

DISINFECTING.

There is no place on the farm where disinfectants are more useful than in the hog house or yards. Whitewash, air-slaked lime, chloride of lime, stock dips, compounds of creosote, crude carbolic acid or other commercial disinfectants are commonly used. Pastures and hog lots may be improved by removing the hogs for a few weeks each year, and cleaning away all litter. The unused lots can be plowed and planted with a suitable forage crop. Precautions against contaminations of food and drinking water must be taken. Muddy yards soon become filthy and endanger the health of animals. They should be well drained, and all wallow lots filled. It is poor practice to use pens and yards where drainage from other lots collects or puddles. The quarters where hog cholera has raged should be thoroughly cleaned; all walls, floors and troughs scraped, after which a good disinfectant should be applied with a brush or force spray pump. All litter should be removed and burned, the yards plowed and seeded or where this is not practical, dry straw spread over the ground and burned will be effective. Crude oil applied with a body brush will effectually destroy lice and other external parasites. Repeat in seven days until all nits are killed.

The following solutions are recommended for disinfecting premises:

Compound of creosote, 1 part to 30 parts water.

Crude carbolic acid, 1 part to 30 parts water.

Corrosive sublimate, 1 part to 800 parts water.

Circular No. 1, New Jersey Live Stock Commission; Farmers' Bulletin No. 345.

WESTERN MEAT COMPANY,
San Francisco, Cal.

JOHNSON MAKES GOOD SALES OF GUERNSEYS AND DUROCS.

Ed Johnson of Turlock, Cal., is rapidly widening the popularity of his herds of registered Guernsey cattle and Duroc Jersey hogs, and recent sales reveal a geographical distribution of buyers from Red Bluff, Cal., to Phoenix, Ariz. Joe Levy of Stanislaus County was a purchaser of four Guernsey heifers and one bull, having sold out his registered Holsteins and transferred his favor to the Guernsey breed.

Knob Hill Stock Farm
REGISTERED.

Poland Chinas

I offer young stock of both sexes out of prize-winning stock. Call and see my herd or write for prices.

A. M. Henry, Farmington, Cal.

GLENVIEW RANCH
LARGE TYPE, REGISTERED

POLAND CHINAS

Have a fine, vigorous lot of Baby Pigs of both sexes. Quality and price right. Order early as supply is limited.

CHAS. R. HANNA,

Riverside, Cal.

FAIR VIEW HERD

POLAND CHINA HOGS

Booking orders for future delivery of pigs from our prize winners.

W. A. YOUNG, Prop.,
LODI, CAL.

Poland Chinas I have an extra good selection of Pigs out of my good big type sows and sired by Iowa Wonder, son of A. Wonder, and Longfellow 3d, son of Longfellow Jr. Pigs and Robins are right. Write me your needs.

N. HAUCK,
ALTON, HUMBOLDT CO., CAL.

PURE GOLD STOCK FARM

Breeders of BERKSHIRE HOGS

HOLSTEIN-FRIESIAN CATTLE

Offers for sale a few Choice Boars of breeding age, and a number of Boar Pigs containing the blood of Masterpiece and Robins. Prices, \$25 to \$75.

Also one choice Yearling Bull of good breeding.

MARKOFER & LATTI, Elk Grove, Cal.

DUROCS At State Fair, 1st aged sow, 1st sow under 18 months; 1st boar under 2 years, 1st prize aged herd. Pigs \$15 from this herd.

Rucker & Coppin, Fair Oaks, Cal.

DUROC JERSEYS

Choice registered stock of both sexes for sale. Correspondence solicited.

J. W. MOWRER, Turlock, Cal.

BERKSHIRES

Registered purebred stock of all ages.

Traver W. Goethe, Walsh Station, Cal.

DUROCS and BERKSHIRES

Can supply up to 175 head registered Duroc and Berkshire sows and gilts.

Also have good lot grade Berkshire sows and gilts. H. P. SLOCUM & SONS, R. 1, Willows, Cal.

DUROCS

Out of first prize winners State Fair. Boars ready for service. Choice gilts.

Pigs, either sex, \$15.

ED. E. JOHNSON, TURLOCK, CAL.

DUROC SWINE

Choice young pairs and trios. Two prize-winning yearling boars at 1914 Fair. My young herd won the National Duroc Assn. Silver Trophy this year. J. K. FRASER, Denair, Cal.

BERKSHIRE SWINE

SHORTHORN CATTLE

Choice Young Stock for Sale.

H. L. MURPHY, Perkins, Cal.

BERNSTEIN'S RANCH

Poland China Hogs

The Money Makers.

The Prize Winners.

W. Bernstein, Proprietor
Hanford, Kings Co., Calif.

ELK GROVE HERD

Berkshire Swine

Three first prizes and Champion Sow at 1914 California State Fair. Silver cup for best young herd bred by exhibitor at same fair. Young stock for sale.

F. W. WHITE, Elk Grove, Cal.

Registered

Poland China Swine

PRIZE WINNERS

Finest Stock in the State from \$30 up.

I have for sale fine Young Boars sired by Gold Coin, Master Banker and Wonderful Victor. There is no better blood in the world.

M. BASSETT, Breeder

HANFORD, CALIFORNIA

Poland China Swine

I have for sale pigs of both sexes sired by my boar, Great Prospect (57949) out of sows sired by A. Wonder. For prices write or call

BROWNING STOCK FARM, WOODLAND, CALIFORNIA.

W. H. BROWNING, Prop.

O.I.C.

SWINE

Everything Immunized Against Hog Cholera by Double Treatment

Stock registered and crated Free.

C. B. CUNNINGHAM.

MILLS, CALIFORNIA

BERKSHIRE SOWS

I have for sale three lots of registered Berkshire sows, ranging in age from eight months to three years, and weighing from 225 to 350 pounds and up. These are strictly high class in every respect, and one choice lot of 150 head will be sold at a price lower than I would contract to furnish good grades. Here is an exceptional opportunity for sow buyers who want from a carload up.

Write me, whether you need one hog or a carload, describing as nearly as possible the individual or individuals that you wish.

H. T. MORGAN, Glen Ellyn, Ill.

WEANED PIGS

of both sexes, ready for delivery in December. From ten different sows, all good ones. Sired by three different boars, all good ones.

Successfully Weaned

—and
cool a
ruot in
the
bunch

Blatchford's Pig Meal

the complete milk-equal, keeps the pigs growing steadily, surely and safely while weaning. It takes the place of the sow's milk and costs you less than half the value of skim milk. 100 pounds makes 100 gallons.

Ask for our folder, "The Safety Route from Pighood to Porkage"

Coulson Co.

Petaluma California



REGISTERED PUREBRED POLAND CHINA SWINE

Herd headed by Designer (160363), Grand Champion Boar Oregon State Fair, 1911. Seven champion crosses close up. My sows are EQUALLY as WELL BRED. HAVE NOT HAD CHOLERA IN MY HERD OF THIRTY YEARS. Choice Pigs for Sale. (Registry Free to Purchaser.)

S. F. WILLIAMS

CHICO, CALIFORNIA.

BERKSHIRES Bred for large, strong litters. All ages for sale. Boar pigs, \$10; sow pigs, \$12.

J. M. Bomberger, Modesto, Cal.

TAMWORTHES

The big red bacon and black hog. Send for prices and circulars. **COTTE & HOBSON CO.,** Amsterdam, Cal.

Hampshire Swine

The breed that has won over all others for several years in the dressed carcass contest at International Fat Stock Show.



My herd has been selected with great care, and is headed by EL SALVATOR, winner of two silver cups in the strongest competition in the Middle West.

I have a choice lot of young registered pigs of both sexes for sale. Also a number of choice boars ready for service. Write for prices.

Frank Reed Sanders

MESA, ARIZONA.
In the Salt River Valley.

Diseases of Animals

459 PAGES.

Made for the practical stockman and farmer. Comprehends all the common diseases of live stock and outlines simple, effective methods of treatment.

PRICE, \$1.50 POSTPAID.

The Live Stock and Dairy Journal

SACRAMENTO, CAL.

FACTS REGARDING FOOT-AND-MOUTH DISEASE.

This disease is very highly contagious, infecting principally cloven-footed animals. Cattle are most frequently affected; next in order come hogs, sheep, and goats. Horses, dogs, cats, and even poultry have been in rare cases affected, but these animals, especially the last three mentioned, are particularly dangerous as carriers of the disease. Man is not immune to this disease, and children drinking raw milk from affected animals may develop blisters similar to those in cattle. The affection in man is not serious, and recovery promptly follows.

The disease is manifested in animals by the formation of vesicles or blisters on the lining of the mouth and the surface of the tongue, on the teats, between the toes and above the hoof. In sheep and hogs the feet alone are usually involved. The mortality from this disease is usually low, and the economic importance in stamping out and preventing the spread of this disease lies in the fact that it spreads very rapidly and the loss due to the rapid loss of flesh of the animal and the diminution in the milk production in affected animals. During the course of the disease the milk production either ceases entirely or is greatly reduced. The milk secretion, even after the animal has fully recovered, usually does not reach higher than three-quarters of its normal amount.

Animals that have apparently recovered possess only a limited immunity to this disease, and are subject to future attacks. It is also claimed that recovered animals act as carriers of the infection in spite of their being apparently well.

At present the disease is reported to exist in about a dozen states east of the Missouri River. It is claimed to have been introduced by hides coming either from South America or the Philippine Islands. The first cases have been found in the vicinity of a tannery near Niles, Mich.

There is nothing that the California stockman can do except place his faith in the Federal Bureau of Animal Industry, and the State Veterinarian's office. The prompt and effective action of the Bureau of Animal Industry, with its corps of trained veterinarians, has enabled it effectively to control and suppress the disease when formerly it has made its appearance in this country. In this outbreak, also, the bureau is out with its strong force of experienced men.

JACOB TRAUM,

Veterinary Division, University of California.

DISPERSAL OF A GREAT HERD.

On January 5th and 6th at Syracuse, N. Y., will be held a public sale at which the Holstein-Friesian herd owned by the estate of E. H. Dollar will be offered to the public. Mr. Dollar was recognized as one of the most thorough breeders of black and whites, and his early death was a distinct loss to the interests of the breed. This sale at Syracuse will place at public disposal the famous herd which Mr. Dollar had gathered and bred and developed. Cows in the herd have records as high as 38 pounds, and there are a considerable number with records over 30 pounds.



COLLEGE BELLE'S S AND LITTER. A top-notch registered Berkshire Sow, owned by H. M. Bullard, Plainfield Stock Farm, Woodland, Cal.

OAK GROVE BERKSHIRES

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It is admitted by American poultry men without argument that Tom Barron's great layers were produced by years of trapnest work and selection.

It is a little harder to select the best producers in a flock of poultry than it is to select the best producing cow in a dairy herd. The absolutely correct way to find the best layers is to trapnest the whole flock which is no little work.

I think I am perfectly safe in saying that there is not another word in poultryry that is as much abused as the word "trapnested." You see this man and that man advertising trapnested birds and eggs for hatching from trapnested hens, while there are a few of them that are true, there are many that are not—that is, trapnested for a year and the record of each individual kept which is the only record that will build up the egg laying qualities of a flock.

Tom Barron's winning in the American egg laying contest is going to put the American poultrymen down to business in real trapnesting and year records of the individual hens to get greater yearly records—not phenomenal records, but a steady upbuilding of the flock.

Tom Barron Visits America.

On a recent visit of Mr. Barron to American experiment stations he gave interesting talks at Mountain Grove, Mo., and Storrs, Conn., on the subject of egg production and poultry keeping in general. In his years of selection of the best layers of his flock he has observed individual characteristics that are pronounced in the best layers of the flock.

These points as given by Mr. Barron will, and are, proving valuable to poultrymen, not only in England and the Eastern and Central United States, but right here in California, where so many people are making a living solely by producing commercial eggs and chickens. The points of the best laying hens as given by Mr. Barron are stubby beaks, short and broad head, short neck, legs well set apart, body rather deep behind so as to give full capacity for egg and digestive organs, with a comb larger than standard and of fairly soft texture. He believes that the male influences largely the egg production of the chick.

Of course the pullets that were sent to the American contests by Mr. Barron were not trapnested themselves, but they are from parent stock that the year before produced pullets that made good records, consequently pullets the second year should be practically the same. And, like the dairy cow, so is the hen. Blood tells.

J. D. YATES.

Poultry Editor The Live Stock and Dairy Journal: Please tell me what to do to rid a sandy soil of stick-tight feces. Oblige M. O., Riverside, Cal.

In three gallons of distillate mix three cupsful of crude carbolic acid, that will give you about a three per cent solution. Clean up litter, etc., and spray the soil with the mixture.

Poultry Editor The Live Stock and Dairy Journal: I have alternate runways for my flock, and I want to sow seed in the vacant runs, and later to place the flock on same when the seed is grown sufficiently high so they may use it as green feed. What would you advise me to sow? Thanking you, yours truly. T. H., Glendale, Cal.

Barley is a quick growing seed. I would sow that, and when it is three or four inches high place the flock on it.

Poultry Editor The Live Stock and Dairy Journal: I have a hen that lays a thin shelled egg quite frequently. She is rather fat. What is the cause and remedy? Oblige. Yours truly. O. P., Santa Cruz, Cal.

The fact of the hen being fat is very likely the cause of the thin-shelled eggs, as she cannot secrete enough shell-making material to supply what is requisite, or she may not be getting enough of lime in the form of shell, but in any case you must give more greens and shell, then if those do not remedy, mix a small quantity of lime in a quart of water, when settled take a teaspoonful of that liquid daily to a quart of the drinking water, allow the hen no other water to drink for a week.

Poultry Editor The Live Stock and Dairy Journal: Please give me a mash for hens that are over the molt. Thanking you, yours truly, S. C., Santa Barbara, Cal.

Five parts bran by measure, 3 shorts, 3 feed meal or corn meal, 3 barley meal, one and a half fish meal or beef scraps, half a part bone meal, a quarter part charcoal, all well mixed; if dry in hopper to help themselves all the time; if a scrubby mash what they will eat clean in fifteen to twenty minutes daily from a trough. If scrubby you may boil all good table scraps and peelings and add those in mixing, but not sloppy or sticky.

Poultry Editor The Live Stock and Dairy Journal: I have a rooster that was fine to the hens before the molting time, but now he is just as mean as can be to them in preventing them from eating, though plenty of feed for all. What shall I do with him to cure him? Thanking you for much help received, Yours, R. A., Pasadena, Cal.

Place him in a coop alone close to the runway of the hens where he can see them but not get at them. Keep him there for two weeks, then allow him his freedom among the hens again, and if he still continues tricky fix him up for a good dinner for the family.

Poultry Editor The Live Stock and Dairy Journal: I have some hens that are very slow in molting. What can I give them to help out the feathering? With thanks, yours truly, T. O., Merced, Cal.

Give this mash daily, in a crumbly mixture, what they will clean up in twenty minutes from the trough: Bran, 5 parts by measure, rolled oats 2, shorts 3, barley meal or ground barley 3, alfalfa meal 1, feed meal 3, linseed meal 1, beef scrap or good fish meal 1, bone meal 1, fine charcoal one quarter part. Greens at noon and equal parts of wheat, Kaffir or Egyptian corn and rolled barley, a handful daily to each hen in litter.

Poultry Editor The Live Stock and Dairy Journal: What is the cause of weak legs in a chicken and the remedy? Oblige. Yours, Y. O. P., San Francisco, Cal.

Weak legs may be caused by several troubles and diseases, such as tuberculosis, rheumatism, aspergillosis, scaly leg, bumble foot and poor stamina.

If from tuberculosis or aspergillosis, it is incurable, if rheumatism it will require warmth in housing with right medication, if from bumble foot you will see a swelling on the foot, and scaly leg is very noticeable. I shall have to receive more symptoms before fully advising.

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FARM WOMAN'S PAGE

HOW TO MAKE FARM KITCHEN AN EFFECTIVE WORKSHOP.

Improvement in the arrangement of the farm kitchen will result in saving the energies of some 8,000,000 people and make their work less heavy and more enjoyable, according to Farmers' Bulletin No. 607, issued by the U. S. Department of Agriculture.

This bulletin, entitled "The Farm Kitchen as a Workshop," discusses not merely the proper location of the kitchen with reference to other parts of the house, but gives details as to the best methods of treating its floors and walls, and gives well tested floor plans for the step-saving arrangement of the sink, stove, table and other kitchen utilities.

The author of the bulletin, in her introduction, states that a small, compact kitchen saves many steps and much useless labor in the preparation of food. This, however, is in homes where the kitchen is merely a workshop, and not used also as a general purpose room, where meals are served and where the family gathers to enjoy the warmth of the stove. Even where a large kitchen is needed for such purposes, however, a logical arrangement of its various features with relation to each other will enable the housewife to do her work much more efficiently.

Whether the chief exposure of the kitchen shall be north, east, south or west, is a matter governed by individual preference and local conditions. A kitchen which receives the morning light is usually desirable. Effort should be made, however, to secure light from two directions and cross ventilation. For this purpose, the kitchen should be located either in a corner of the house or in a narrow part where there can be windows on opposite sides. It is well, also, to locate the kitchen so that clouds of dust may not be blown in from the road, and it is of even greater importance that the kitchen be so located with reference to barns and other outbuildings that the prevailing winds will not bring unpleasant odors or flies from them.

In many farm houses a very large kitchen is provided, because it must handle the unusual cooking for harvest hands. The writer points out that it will be better to provide a temporary shed or a kitchen on the porch, with oil stoves or other cooking devices, to handle this unusual rush, and thus allow the housekeeper to have a smaller kitchen during the rest of the year.

The size of the kitchen, unless a large pantry or a storeroom is provided, is also governed somewhat by the amount of supplies which must be stored. In the case of a farm distant from town, supplies necessarily must be bought in bulk, and need sufficient storage space. In such cases, it is sometimes wise to provide an extra pantry or storage room. In arranging the pantry, however, especially if it be between the kitchen and dining room, care should be used not to make it too large, as a long passageway between these two rooms adds necessarily to the labor of the woman.

The kitchen, the writer finds, should be so located that it will be especially convenient to the pantry, dining room, storeroom, cellar and woodshed. At the same time, access to other parts of the house should be easy from the kitchen, although, as the writer points out, it is unfortunate if the kitchen is made the principal entryway to the house. She particularly urges that it be on the same level with the pantry and dining room, as steps, even if only one or two, mean the extra work of lifting and lowering the body up and down them many times a day and lead inevitably to greater breakage of crockery. The bulletin is very specific in condemning kitchens in basements. It very emphatically urges that general traffic through the kitchen be reduced as much as pos-

sible, and especially that it be not made a place where outer clothing and hats are hung.

For reasons of general convenience, too, the refrigerator should be on the same level as the kitchen. Similarly, for much the same reason, the writer urges that the refrigerator or icebox be so arranged that it can be filled from the outside. If the rear opening of the icebox is tightly joined to the opening in the wall of the house, and this opening is screened with strong wire netting, the back of the icebox can be left open in winter and the food kept in cold air without chilling the rest of the house.

The floors, walls and ceilings should have a plain surface and be free from cracks, ridges, mouldings, or other raised ornaments which catch dust and dirt, are difficult to keep clean, and afford harboring places for insects. Walls covered with washable paint or washable wallpaper are easier to clean than those simply tinted, though the latter can be readily renewed. Light colors are preferable, greenish grays being desirable if the exposure is toward the south, and light yellows or creams if the kitchen gets its light principally from the northeast.

Of course tiling or vitrified brick or metallic tiling are better than paint, tint, or wallpaper, which have to be renewed, but these are more expensive. Where the walls are painted, a better surface results when a coat is applied every year or two than when several coats are applied at once. A final coat of enamel paint or outside varnish is desirable for woodwork that needs cleaning frequently. The ceiling may be finished with whitewash or one of the commercial preparations.

Unfinished wooden floors are one of the great burdens of the housewife, as they can be kept clean only by frequent scrubbing, and in spite of care show spots and stains. Soft wood quickly becomes rough and splintered. Soft woods can be bettered by the application of special floor paints. Hard woods can be made less absorbent by the applications of wood fillers which are common commercial preparations. Where unseasoned boards are used, cracks are likely to occur from shrinkage, and these should be filled, putty being sometimes used—and sometimes commercial preparations designed for this purpose.

Lighting, ventilation and heating are particularly important in the kitchen. For ventilating purposes, a window that goes to the top of the room, with a top sash that can be readily raised and lowered, is especially good, as it lets out the hot air which naturally rises. A window pole can be provided for closing the top sash. In lieu of a window opening at the top, small windows for ventilating purposes may be provided near the top, over the cupboard, table or sink. These will be most convenient if they are hinged and arranged so that they can be opened and closed by pulley and rope. There can hardly be too many windows in a kitchen. Glass panels in doors also allow light to penetrate into dark places in closets or passageways. Where there is danger of breakage, wire glass should be used, and where privacy is desirable, frosted or similar glass can be selected.

For summer in northern states, and for all-the-year use in warmer regions of the country, there should be a screened porch opening off from the kitchen on the side which is not exposed to the sun during the hottest part of the day. Much of the kitchen work may be done here and this will add greatly to the comfort of the worker. Some prefer to have such a porch open on to the garden, but others had a screened porch with no opening preferable, just because it

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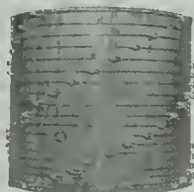
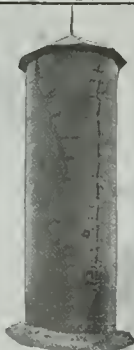
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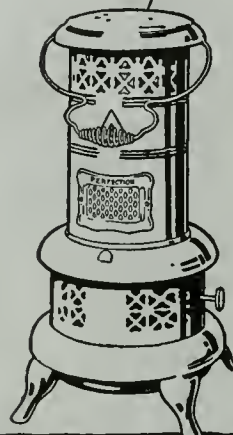
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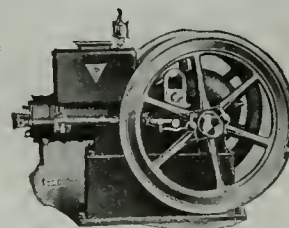
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